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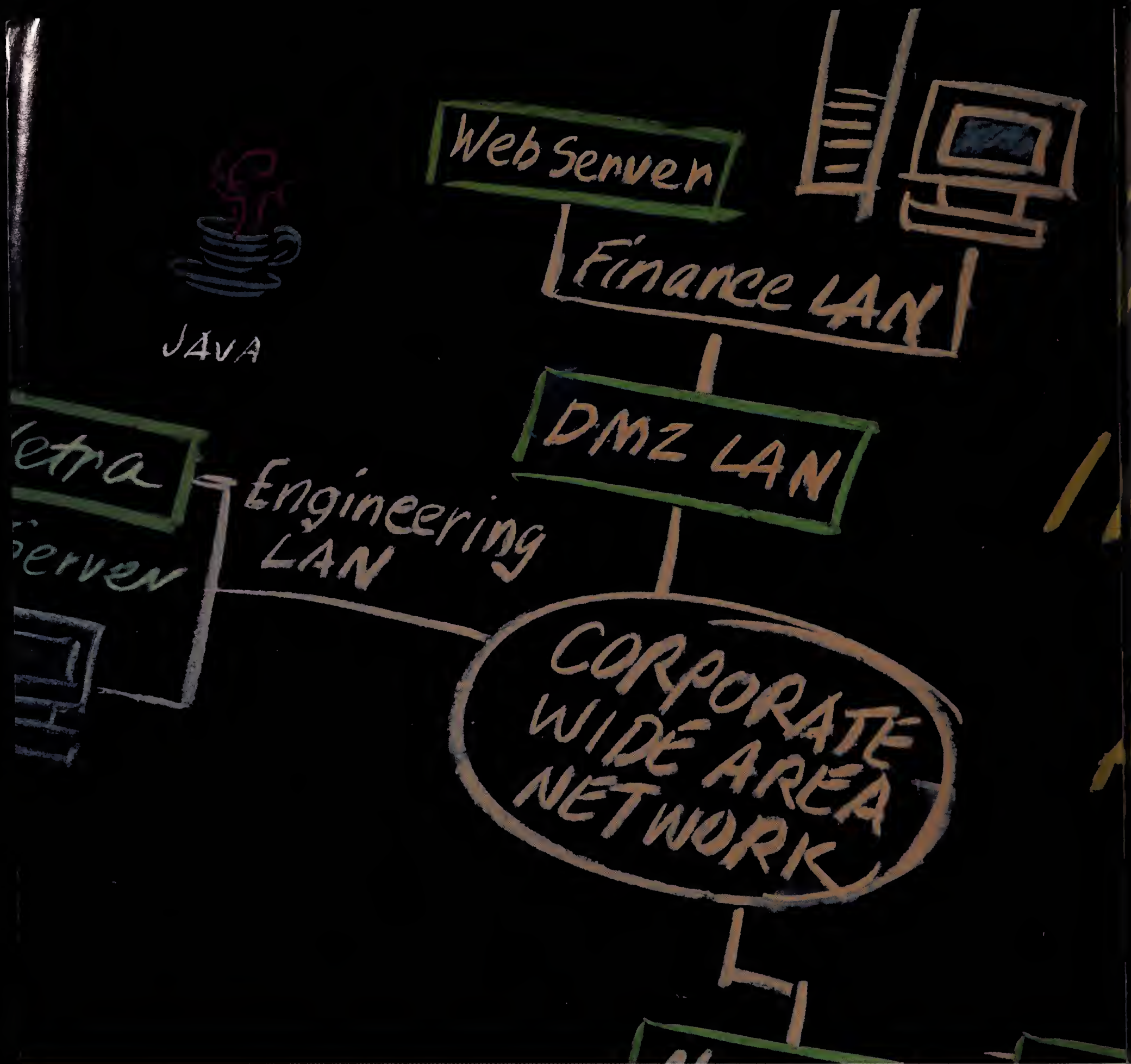

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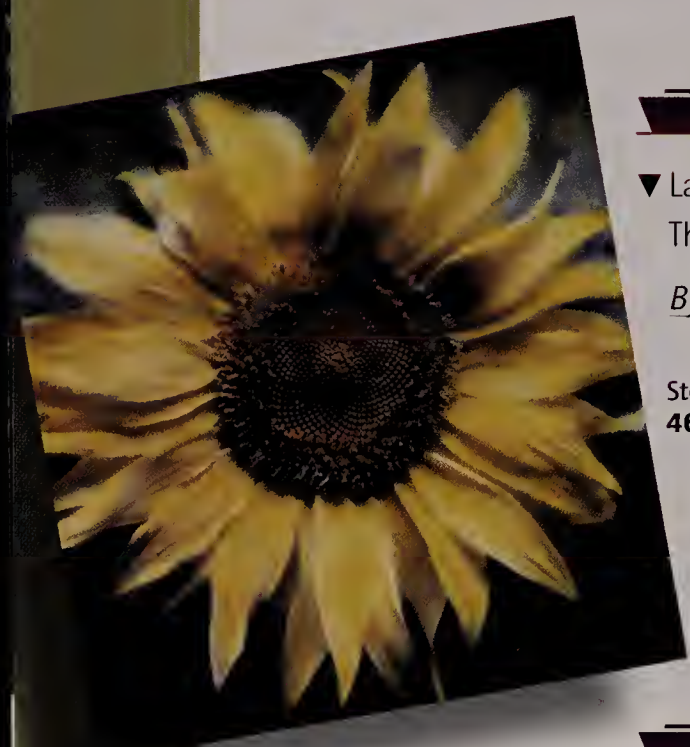
July/August 1996
VOLUME 1, NUMBER 2

FEATURES

38

▼ Get ing[illegible] Spyger
[illegible] competitors just got a whole lot easier.
By Anne Stuart

A spyer's guide
38



Retail Retold

46

▼ Last year, there were too many obstacles for online retailers. That was then, this is now.
By Lynda Radosevich

Storefronts bloom
46

Surf and Turf

54

▼ Power users, new users, the folks from IT. Everyone wants something from Amoco's intranet. And they all want something different.
By Carol Hildebrand

Internal affairs
54

Cover image by John Soares

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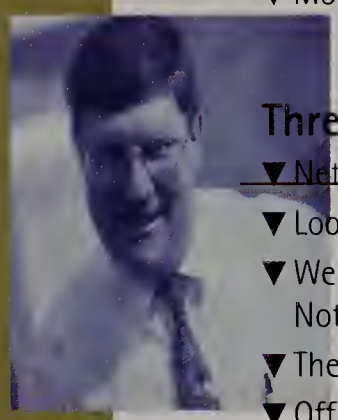
DEPARTMENTS

Home Page 6
- More on the Web and IS



Threads 10
- Net Grains
- Look Before You Link
- Webmaster's Notebook
- The Hits of Yesteryear
- Off the Cybershelf
- We Are Not Amused
- A Hire Power
- Inside Outs

Netrepreneurs 18
- Read Instruments
- The Young and the Flexible

Browser 68
- Signature Tuneups
- Salesperson Inside
- The Big Irony
- The Hole Truth
- Enterprise Possessions
- Instant Storefront

Index 64

COLUMNS

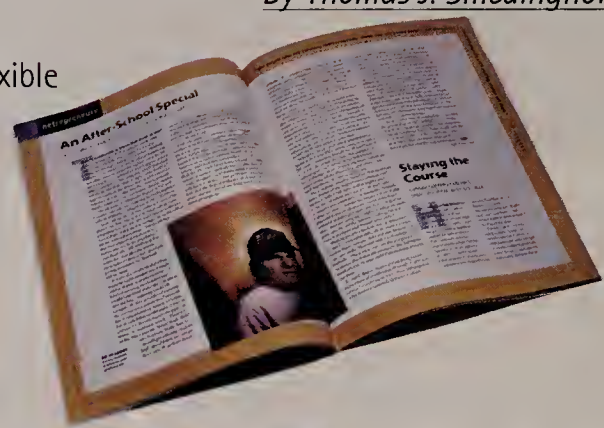
Customer Interface 24
Drag Net

▼ The story you are about to read is true. The name of the offending company has been changed because we're nice.
By Jim Sterne

Don't bank on it
24

Gray Matters 28
Rights and Wrongs

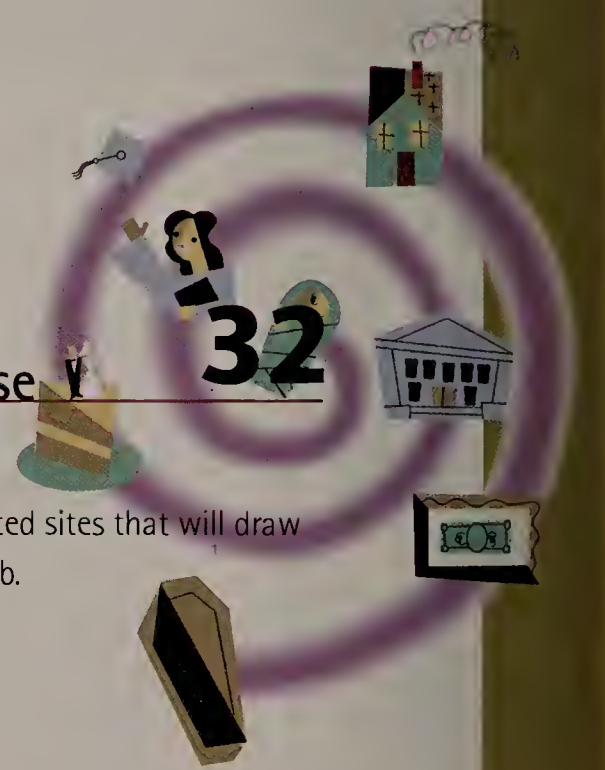
▼ You commissioned it. You paid for it. But that doesn't mean you own it.
By Thomas J. Smedinghoff



The Business Case 32
Sites of Passage

▼ A modest proposal for service-oriented sites that will draw even reluctant consumers to the Web.
By Leigh Buchanan

Life cycles
32



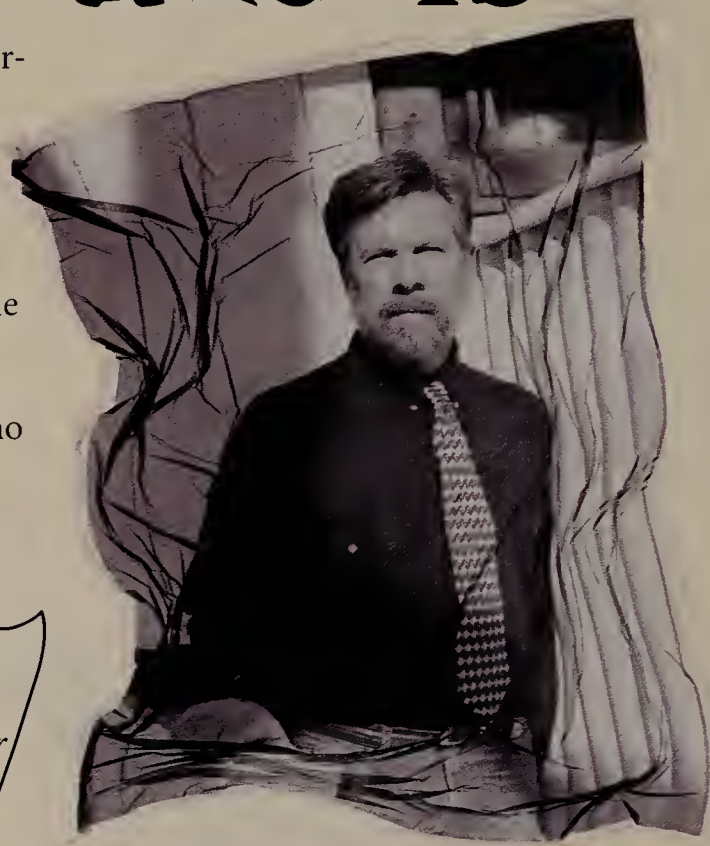
Enter the ring.

More On The Web and IS

I had hoped to stir up some controversy with my column two issues back (*"Can You Cut It?" WebMaster*, March/April 1996). I had hoped to be violently disagreed with by able defenders of the IS profession's heartfelt participation in Web/Net development. Unfortunately, most of the stirred-up controversy concerned my ill-considered use of profanity. (Even my mother e-mailed me to this effect.) So I herewith apologize to those offended and pledge to keep it on the up and up from here on out.

Many of those who managed to overlook my language agreed that IS is behaving dysfunctionally and offered examples from their own shops. Others related inspiring tales of IS enlightenment (while supposing that elsewhere things were predictably screwed up). And a few stood firm for IS becoming an indispensable last bastion against disorder, mania and organizational ruin.

All these viewpoints are true enough to make a case for themselves, and none, of course, can be generalized. Here, then, is a sampling of the reactions (a broader swath is available at *www.webmaster.com*). Thanks to all who responded—even those who want me to burn in heck.



Lew McCreary
Editor in Chief & Publisher
mccreary@cio.com

How's it going at my place? Ask IS! I'm a 15-year IS professional recently self-displaced to the physician services department of a large acute-care hospital. As far as health care goes, this is the place to be—building a management services group to provide basic (but comprehensive) business services for physician practices recently acquired by the hospital.

But hey, it's refreshing. And it's definitely not IS—that slow to respond, "I'm afraid to make a move into any IT initiative less than 10 years old, but I'd sure like your buy-in on this one so I can blame you when it screws up" collective mentality.

We are now forming an Internet workgroup initiated because of a $30K grant. IS has had its personal surfer/dabbler/afternoon-fooling-around user-ID for one year. So far, there's no plan, no insight, nothing but: "Ah, we'll be housing the gateway, server and router and performing all administration." (Translation: "If you think for one minute we're giving control to the users, you're crazy.")

That's how it's going. Sound familiar? Help!

–A graying, System/360, System/370, S/36, AS/400 and, most recently, Access and Visual Basic IS veteran

Your article drove home the point that Web—especially intranet—development is a cooperative effort, requiring the participation of diverse groups that might not always see eye to eye. Obviously, IS has to be a key player, but other groups—legal, human resources, employee relations—must also play a role.

That is especially true for larger intranet efforts, like the one I'm involved in at MCI. One hundred and thirty internal servers have sprung up independently companywide, and our Web development group (not affiliated with any of the groups mentioned above) is trying to add context to this chaos.

We've emerged as a facilitator of sorts. We don't own content or services—those reside on the servers on which they're developed. Instead, we make sure that the right issues are being addressed, and we offer advice (and even development help) where needed.

If we failed to work with other key groups—if we didn't have a complete team—our efforts would be at risk. Other groups would develop competing products, employees would get confused and, before you knew it, we'd be looking at a motley collection of 200 servers rather than a cooperative, value-adding intranet development effort.

–Steve Fleckenstein
fleck@mci.net

You describe well the history of the IS plight: trying to stay in control of its own, apparently diminishing, world instead of leveraging the profession's

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real strengths for the organization's benefit.

Unfortunately, IS professionals have the same human frailty as the user community: believing that the status quo is much easier than change. When IS organizations discover "what's really in it for me," they can be of tremendous help to their constituents. [Applying] this survival instinct requires one simple insight: IS knows how to solve business problems using technology!

What hasn't changed during decades of technology upheaval is the problem-solving process itself: working with people, analyzing processes that cut across organizational boundaries and separating symptoms from root causes. This discipline requires a rare combination of people skills, organizational savvy and the ability to "peel the onion" to its core. IS has an additional talent: It knows IT! Mastering both the problem-solving and technology knowledge sets is where IS must excel to survive.

Ironically, the easier a technology is for users to touch and feel, the more important it is for IS to deliver this added value.

–Jim Slusser
Director, Information Technology, Emcon Corp.

I just read your piece on IS and the Web. I laughed, I cried, and I took heart: I am not alone!

I'm a webmaster with a non-Druid background. I work in a company whose IS manager is in his 50s and seems unable to cope with the fact that PCs now dominate. There are 80 people in the company, and only one had a copy of Windows when I started here two months ago (there are four Windows users now).

The Web site was the idea of the sole Windows user (not our IS guy). The IS guy fought the project tooth and nail and does his best to make sure we in the Internet Department get as little support as possible. It doesn't help matters that I'm a 26-year-old female. I think it irks him that this "little girl" (as he likes to call me) is playing with the big-boy toys. Argh!

I try to stay out of his territory. I say nothing about the fact that our primary software tool is an early-1980s DOS database or that our network is slipshod and impractical. I don't even mention "Windows" in his presence. He has been with this company for two years and is a "buddy" of the general manager. Any time anything goes on with our site or server or one of my people, he runs to the GM. He's making my life miserable.

But at least I'm not alone...

–Name withheld by request

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PROFILE

Net Grains

Everywhere you look, traditional print media are carving out a niche on the Web. Some publications throw up electronic versions of their content, while others merely post online ads for the newsstand product. But *Successful Farming*, a 485,000-subscriber magazine published by Meredith Corp. of Des Moines, Iowa, is trying another tactic entirely. With @griculture Online, it is editing the Web itself.

An extension of *Successful Farming*, @g Online (*www.agriculture.com/*) draws on the magazine's brand name but replicates little of its content. Instead, the editors search the Web for information that will serve its primary audience: farmers and agribusinesses. "Our first and foremost goal was to edit the Net for agriculture," says William Crowell, Meredith's staff vice president and CIO.

In part, @g Online is a signpost, with agriculture-related search engines and links to such services as the Freese-Notis Weather Service for weather news and the Chicago Board of Trade for corn and bean futures. But Meredith also offers original content, including @g/Innovator, an electronic newsletter on precision farming and technology. And it will publish other companies' information—for a price. Instead of buying an ordinary display ad, for example, Cargill Inc. pays Meredith somewhere between $4,000 and $6,000 a month to provide information on its hybrid seeds and to sponsor Cargill Crop Talk, a forum for farmers. So far, selling the idea to agribusinesses has not been easy. "It's more of a strategic buy," Crowell explains.

In terms of visitors, however, @g Online offers sponsors a bumper crop. Hit counts exploded from about 80,000 in August 1995 to almost 950,000 in March 1996.

As the site grows, users—who register now for free—will be asked to pay for premium services, such as local corn elevator prices. Ultimately, annual subscriptions will cost about $50.

Rosemary Perschau, Meredith's staff vice president of new media, says @g Online is driving the company's Web initiatives across the board. Three other Meredith publications—*Ladies' Home Journal*, *Wood Magazine* and *Midwest Living*—went online following similar business models.

@g Online, however, operates in the business-to-business world, the best place to make money in the short term, many say. "For me, [taking to the Web] is about being involved on the revenue side of our business, creating products," Crowell says. "Hopefully, we'll be able to make a buck off this."

–Heath Row

"Taking to the Web is about being involved on the revenue side of our business."
–William Crowell

GROWING BUSINESS: Meredith Staff Vice President and CIO William Crowell has seen hit counts soar.

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Look Before You Link

In the preboom days of the Web, hyperlinking was considered safe and sort of sweet—a way to share with total strangers something that stimulated your brain or tickled your fancy.

But nothing on the Web is simple anymore. And lawyers are beginning to question whether linkers might be held liable for bad things that happen on a linkee's site. "Someone might send you someplace and you might suffer injury as a result—economic injury, physical injury, any number of things," says Barry D. Weiss, a partner at law firm Gordon & Glickson PC (*www.ggtech.com*). "And they could have liability for having sent you to this place."

While there have been no court rulings in this specific area, precedent does exist in the non-Web world. If Liza recommends that Jeffrey seek out the services of Christopher, and Jeffrey is injured as a result, then Liza may be held liable for "negligent misrepresentation," Weiss explains. That injury may be economic—if, for example, Christopher turns out to be running a pyramid scheme. Or it may be physical: Liza could be a physician and Christopher a specialist she brings in who prescribes the wrong treatment.

Whether a hyperlink could be considered such a recommendation depends largely on its context, Weiss says. "If what you're doing is analogous to publishing a directory, there's not much of a claim there," he says. "If you look in the Yellow Pages and go to a business you find there and they breach their contract, you're not going to sue the publisher of the Yellow Pages."

But if the hyperlink is tantamount to an endorsement, Weiss continues, "you're opening yourself up to a little more trouble."

Weiss recommends that people wanting to link to other sites include a disclaimer "in a conspicuous but appropriate way that says, 'We provide these links as a matter of convenience, and we don't necessarily endorse what you may find there.'"

Some organizations are dealing with the problem by regularly reviewing the sites they link to in order to make sure no dubious content has been added. That's laudable, says Weiss, but if you do that—and announce publicly that you do that—"you're putting yourself in the position of being a republisher of their information by saying, 'We are editing it for you. We are prescreening it for you.' There's potential risk there as well." WM

Webmaster's Notebook

Everyone wants to know who's coming to their sites, but few are examining the important question of where they're coming from. Discovering a site visitor's page of origin (the newly acronymed POO—you read it here first, folks) can provide valuable information. And it's easily done: Digital Equipment Corp.'s Alta Vista search engine (*www.altavista.digital.com*) will do it for you. Just click on the "Tips" link at the bottom of the Alta Vista home page and you'll be led through the process. Or you can use NetCarta Corp.'s (*www.netcarta.com*) WebMapper software, which also identifies incoming links.

Once you know who's linking to your site, you can check out what they're saying about you. Perhaps you'll find some kind words or an award, which you can then tout on your own pages. But it's also important to know the bad news. If an irate customer, disgruntled employee or someone claiming that your CEO fathered her child is pointing folks in your direction, you have to know about it in order to take action.

You can also use the information to uncover potential new business opportunities. Are you a nursery getting lots of traffic from The Cactus Lovers' home page? Maybe you should stock up on succulents. Is the online version of a seniors' recreation magazine sending hundreds of people to the information on your line of snowmobiles? Maybe there's an untapped market there, and maybe you should be advertising in both the print and online publications.

You can also use the results to find out if someone is not linking to your site who should be. Did your principal business partner forget that you contributed to its success? Did the Caramel Corn A to Z site leave your business, "Just Caramel Corn," off of its "exhaustive" seller directory?

Another useful thing to do is check your error log to see if an unusually high number of visitors is trying to get in with a malformed URL, and then plug that URL into the search engine. If you can trace it back to a single POO, you can ask the owner of that site to correct the mistake. Don't forget, surfers who get an error message when they attempt to link to you will assume that it's your fault and may not try again. It's in your best interest to make sure that all roads leading to Rome actually get there. WM

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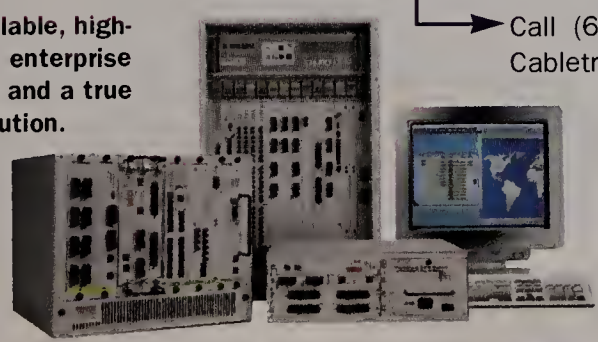

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Bank of Boston Corp. is looking for a systems consultant. Nabisco is looking for food technologists. Richard Hogen is looking for someone to collaborate on a book of space puzzles.

They are all looking on the Web.

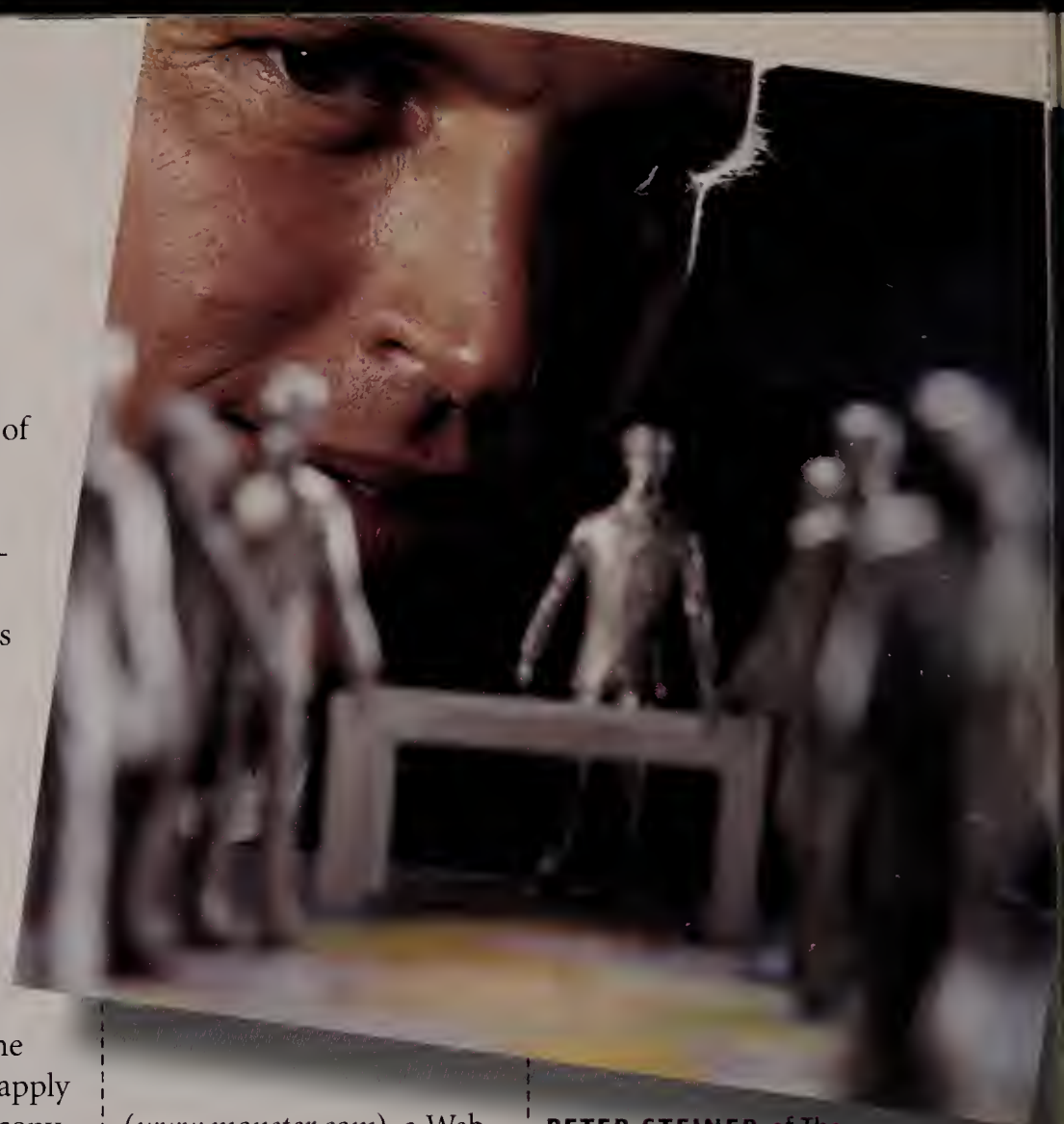
From the early days of the Web's commercial colonization, sites with nothing more than a home page and an "Under Construction" sign have published career opportunities. Now, in addition to those employer-specific listings, the Net is overrun with job boards and electronic resume services, and some companies now accept resumes and applications online. "It's going to become a way of life for recruiting," says Judith Hodges, a senior analyst for applications and information access research at International Data Corp., a sister company of CIO Communications Inc., publisher of *WebMaster*.

The payoff for Web recruiters is a large volume of responses to their postings as well as a broader base of applicants. Job seekers, for their part, learn about a multitude of openings around the world without having to subscribe to every local newspaper and trade publication. In addition, the growing number who apply online save money on copying and mailing resumes. "It decreases costs all the way around," Hodges says.

Considering those advantages, it is not surprising that Web recruiting features are turning up in human resources software. Restrac's Hire 3.0 system, for example, lets users post job openings on and receive resumes from The Monster Board (*www.monster.com*), a Web-based clearinghouse for job listings. Resumes submitted through The Monster Board now sail directly into databases living in Restrac customers' HR organizations; the software then records, sorts and distributes them to people involved in the hiring process.

Another emerging trend is the birth of specialized job services sliced by industry, geography or demographics. The Main Quad (*www.mainquad.com*), for example, is run by recent college graduates and college student interns for college students. It offers the Extreme Resume Drop, where users can research prospective employers and submit resumes and cover letters via e-mail.

One corporate user of Extreme Resume Drop is Wilfred Alkhas, staffing analyst at Quantum Corp. (*www.quantum.com*), a manufacturer of digital storage products. Alkhas says he expects 20 percent of the company's new hires to come in through the Resume Drop and other job-related sites. WM



PETER STEINER of The Monster Board is reaching into HR departments.

PHOTOGRAPH BY ROCKY THIES

We Are Not Amused

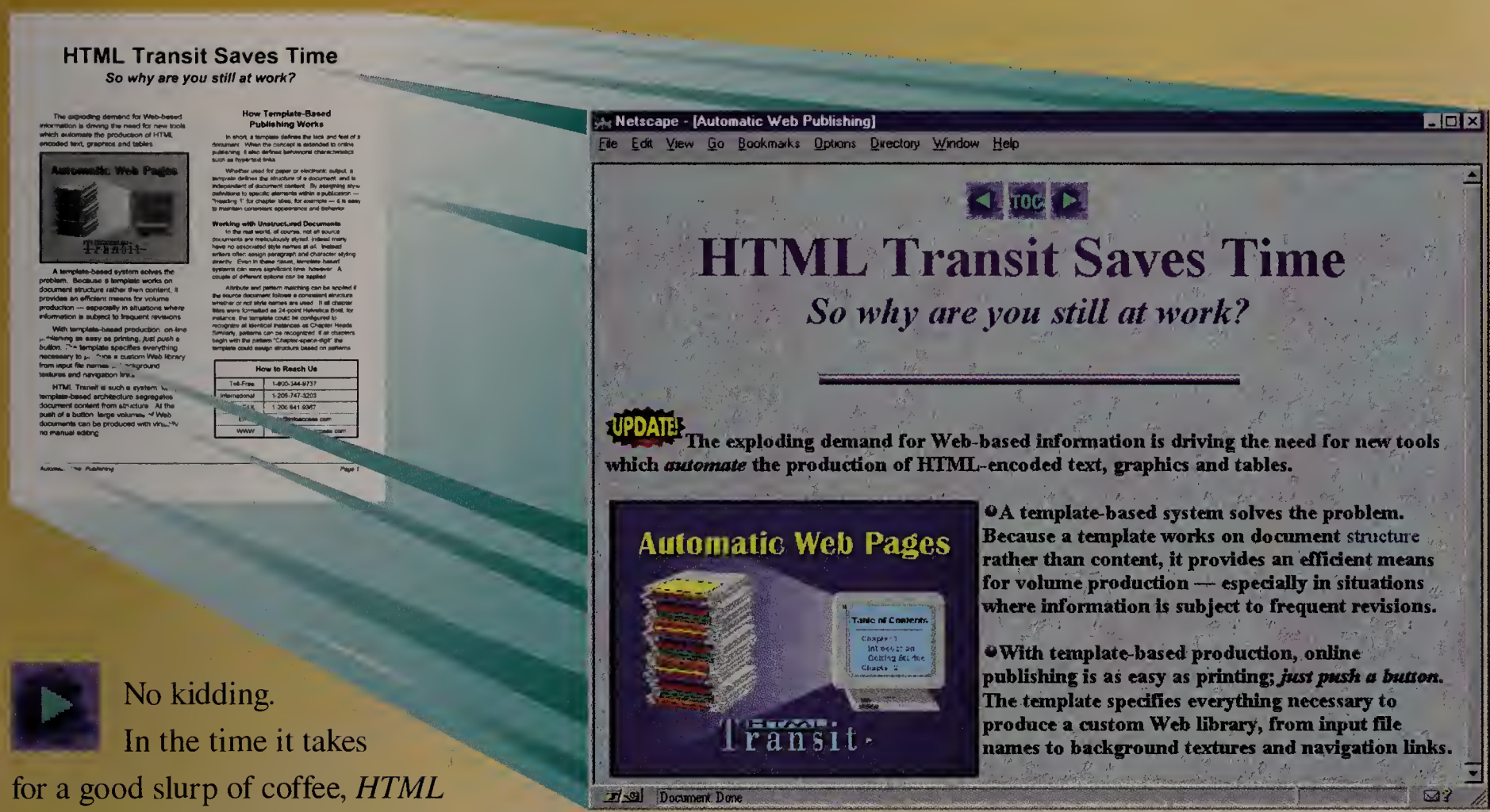
There's an Agatha Christie novel in which a proud fan tells a famous actress that as a child she sneaked out to get the star's autograph while infected with German measles. Unbeknownst to her, the star caught the disease, harming her unborn child. The fan, needless to say, turns up toast.

That plot sprang to mind when we read Jumbo's recent announcement that "America's Fortune 500 Companies are Biggest Downloaders of Computer Games." Jumbo (*www.jumbo.com*) is an Internet resource for free software, much of it business related. But the site also offers more-fun stuff, and according to a recent press release, Jumbo's management has discovered that companies are "also downloading thousands of games each day from the Jumbo game section—previously thought to be the afternoon hangout of hooky-playing high school kids and indolent college students."

Jumbo seems pleased about this and had no reservations about including a list of 50 top companies—ranging from 3M to Xerox—that were doing the deed. "Poor guys—they're probably just assuaging the pain of downsizing," quips National Sales Manager Will Margiloff, apparently oblivious to the fact that such practices are anathema to many execs and that some lower-level types have reportedly lost their jobs over using the Web for nonwork purposes. Chances are, companies on Jumbo's list won't be nearly as amused as Jumbo. WM

www.web-master.com/

HTML in 10 seconds!*



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*Single-page Microsoft Word document with graphics and tables, running on 75MHz Pentium. Conversion speed depends on document length, complexity and PC configuration.

Off the Cybershelf

☛ Computer networks with sociological underpinnings get less press than do those in thrall to commerce, but they can have a significant impact on such minor issues as, say, democracy, education and serving the needy. Many consider such lack of attention a shame because community networks are usually tougher to develop—consider the variety of services and constituencies involved—and the people behind them need all the help they can get.

In *New Community Networks: Wired for Change* (Addison-Wesley Publishing Co., 1996), Douglas Schuler takes the concept of virtual communities—elegantly propounded by Howard Rheingold—and brings it down to brass tacks. Schuler's book is a reference work for groups interested in developing and sustaining community networks, with information on everything from calculating costs to choosing the best interface (people with limited vision may have difficulty reading ASCII text, for example). There's also a nice discussion of the Internet's virtues as a delivery channel and some useful appendixes of resource and support organizations.

☛ That's it—we never have to go on the Web again. More than 100 pages of Bruce Judson's *Netmarketing: How Your Business Can Profit from the Online Revolution* (Wolff New Media LLC, 1996) are devoted to synopses and mini-reviews of Web sites. That would be awesome if the book were online and the sites, in all their glory, were only a click away. But, as it stands, we don't feel compelled to visit the Bravo site just to see what makes it "arty."

That's not to say there's no good information in *Netmarketing*. On subjects such as designing an effective gateway and localizing content, the book can be quite useful. But there's a slapped-together feeling to the whole affair, and it's exacerbated by poor proofreading ("even a fairly narrow sampling of gateways can illustrate some of the some of the issues that marketers face"). This isn't HTML, guys. When you make a mistake, it stays wrong. (Of course, nobody's perfect. See below.) WM

The Hits of Yesteryear

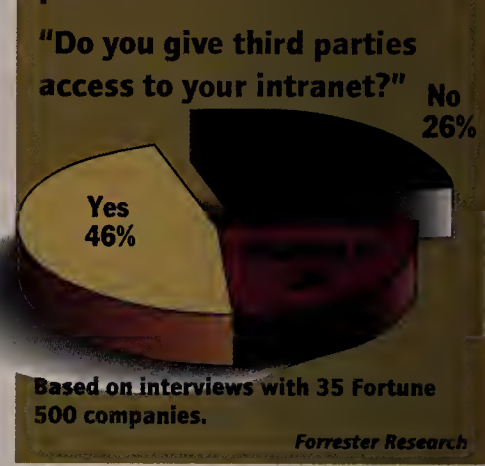
First impressions may no longer be the most important—at least on the Web. Last March, banner advertisements for Procter & Gamble Co.'s Olean, its trademarked brand of the fat replacer olestra, popped up in the Yahoo Web index. Word quickly spread that instead of paying for page impressions—the number of times users hit on the page containing the ad—P&G was paying Yahoo only for click-throughs—actual accesses of Olean's Web page.

Yahoo and P&G declined to comment on the deal. But there was much talk about the reportedly radical arrangement in online discussion groups. Participants quickly divided into camps, some predicting the doom of Web advertising, others lauding the birth of a new marketing model. Jim Sterne, author of *World Wide Web Marketing* (and a *WebMaster* columnist), says the deal makes Yahoo, rather than the company's ad agencies, responsible for the quality of P&G's advertisements. "I don't think a publisher can be responsible for the successful advertising that other people do," Sterne says. "It makes no sense."

But Brian Massey, vice president of Soft Reality Inc., a software developer in Austin, Texas, says the agreement makes sense for a business that is trying to increase traffic and usage. "If you look at Yahoo's position—having just gone public—they need to add value to their stock price," Massey says. "If I have an advertiser who's interested in establishing brand, click-through is a great way to mitigate risk. For [Yahoo] to have P&G on their side is key." WM

Inside Outs

Now that everyone in your organization is finally clear on the difference between the Internet (external) and an intranet (internal), you can spring this on them: Companies are starting to use intranets to do business with entities outside the firewall. The idea is to "lock in electronic relationships with customers and partners before the competition does by giving them access to the internal network," according to Forrester Research Inc.'s Network Strategy Service. The move is business-driven; IS is responding by setting up TCP/IP segments between the Internet and intranets where application servers are registered to third parties.



CORRECTION: Due to an editing error in the story "Will the Web Eat Your Job?" (*WebMaster*, May/June 1996) the estimate of real estate-related Web sites was stated inaccurately. The correct estimate is 4,000.

PHOTO BY FURNALD/GRAY; CHART BY SUE DAHL

WEBMASTER

PERSPECTIVES CONFERENCE

A Conference Supplement to *WebMaster Magazine*

FEATURING

George Gilder

Disintermediation and Beyond

■■■

John Perry Barlow

PLUS:

The Web-Enabled Business Model

Intranet Meets Internet

Sleeping with the Internet

Meeting Your Virtual Competition

CONFERENCE SUPPLEMENT

SURFING THE BUSINESS POTENTIAL

AUGUST 11-14, 1996 ■ WESTIN ST. FRANCIS ■ SAN FRANCISCO, CALIFORNIA

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WEBMASTER
PERSPECTIVES
CONFERENCE

INSIDE

CONFERENCE OVERVIEW
Joseph L. Levy, Lynda Rosenthal & Lew McCreary

"SERIOUS BUSINESS"
Even as consumer applications float tantalizingly on the horizon, companies are learning to exploit the Internet as a practical information tool.

AGENDA
Detailed information about each general and concurrent session and scheduled activities throughout the conference.

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CONFERENCE OVERVIEW

The Web and the Internet have transcended surfing and chat groups to become incubators of serious commercial innovation. Pioneering enterprises are busily hatching the future of wired and interactive business conduct. But only some of these ventures will prove to be successful and profitable. Thus, organizations must prepare themselves now for the transformation of business processes which the Net and Web are driving.

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Our keynote speaker will be **George Gilder**, author of *Telecosm*, and senior fellow of The Discovery Institute. **Don Tapscott**, author of the new bestseller, *The Digital Economy: Promise and Peril in an Age of Networked Intelligence* will moderate the *WebMaster Perspectives* conference and set the stage for our discussions.

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Regards,

Joseph L. Levy
Group Publisher & President

Lynda Rosenthal
Senior Vice President & General Manager Executive Programs

Lew McCreary
Publisher & Editor-in-Chief WebMaster Magazine

Serious Business

Even as consumer applications float tantalizingly on the horizon, companies are learning to exploit the Internet as a practical business tool

By Leigh Buchanan

Until recently, corporate Web champions have sounded like frustrated parents, repeating over and over to their peers and superiors: "It's not a toy. It's not a toy."

Those days aren't entirely over, but the Internet is shedding the anarchic — even frivolous — image created by all the hoopla over pizza, pornography and e-mail for the White House cat. "Those who think the Internet is overhyped and that it will become passè are deeply misled," says Don Tapscott, a Toronto-based consultant and the author of *The Digital Economy: Promise and Peril in the Age of Networked Intelligence.* "Naysaysers may provide comfort to the corporate Internet laggards of today, but this comfort will ultimately prove hollow and costly."

One reason the Net is suddenly being taken so seriously is the shift in focus from consumer to business applications. Yes, the retail market is coming, many still believe, and some merchants experimenting with online channels are reporting more repeat business, increased customer satisfaction and improved margins. Unfortunately, such success stories are not abundant. The majority of e-stores are facing the hard realities of present-day Internet commerce: Web access is far from ubiquitous in households, payment schemes are still in their adolescence and the break-out business model has yet to be identified. In addition, there's what Jim Sterne, president of Target Marketing of Santa Barbara, calls "the vicious cycle: People are not going to the Web to buy things, because there's not enough things to buy." As Netscape Communications' Chairman Jim Clark — someone with an enormous stake in the success of electronic commerce — recently told a conference crowd, "The consumer-oriented Internet is the future."

If full-blooded electronic commerce thrives anywhere in the next five years, it will do so in the business-to-business environment, experts predict. Increasingly, companies large and small are waking up to the implications of a public network for marketing, customer service, distribution, sales support and even EDI. The importance of such dealings is apparent in the Net's growing prevalence in corporate procurement departments, where employees are using it to compare prices, facilitate flexible supplier relationships and even configure products. The success of numerous technology and service vendors on the Net — as well as such distributor sites as *www.industry.com* and *www.marshall.com*, which deal in manufacturing products and electronic components, respectively — demonstrate that businesses are already using the Web to make purchasing decisions and, in some cases, to place orders.

In addition, the ability to provide reliable online support is becoming a selling point for many suppliers, most notably software companies that can send patches and updates over the wires. These motivators are enhanced by the low cost of entry (plenty of corporate Web sites come in at $100,000 or less, although fully staffed and featured transactional sites can costs upward of $2 million) and the promise of reduced printing and service expenses.

But while the question of whether to get on the Web is disappearing, the question of what to do there is not. Now that so many businesses have their home pages (more than one-third of U.S. companies, according to marketing firm Straightline International) and the fascination with being "Cool Site of the Day" has started to abate, a new holy grail is emerging: utility. Fortunately, that grail is relatively achievable, especially for companies with a core competence in technology. "It's easier to create a Web site that helps somebody get their job done than it is to create a Web site that's of interest to consumers," says Target Marketing's Sterne. "You have to be informative and helpful, you don't have to be entertaining."

At a minimum, being helpful means providing information and answers to questions, which most Web sites already do. But services like Federal Express' package-tracking — routinely cited as a paragon of Web utility — have effectively raised the bar. Small and large companies alike are looking for ways to transfer the services they already provide to this new medium. And the most forward

thinking are devising brand-new services that would be difficult or impossible to offer without the Web: Marshall Industries, for example, lets customers perform computer-aided engineering on its site.

A perfect example of utility achieved is Holiday Inn's Web site, the first in the hotel industry to offer online reservations. The site is a demonstrable cost cutter: Holiday Inn saves 75 percent on every reservation made through that medium as opposed to over the phone or through a global distribution system like Sabre. More exciting, perhaps, is the fact that almost all the bookings the company receives over the Net are new customers, the vast majority of them businesspeople.

Currently, the Holiday Inn site pays for itself, but it should do more than that if usage increases. Director of Emerging Technologies Les Ottolenghi predicts that will happen as Web access becomes more ubiquitous. "I look at it as strictly a numbers game over time," he explains. "The number of digital devices that let you connect to the Web in wired or wireless form will continue to grow. And of course the Internet won't be the Internet: It'll be the Internet-plus....It's like saying TV will always be black-and-white TV with one or two major broadcasters. Well, now we know it as TV, pay TV, cable TV, near video-on-demand TV. The same thing will happen with the Web."

Dell Computer Corp.'s Web site focuses more on serving existing customers than on winning new ones, but that strategy "increases our brand awareness among non-customers who come to the site and see what you get when you do business with Dell," says Kenneth Hill, the company's global online business development manager. Dell conducted extensive customer research to determine what types of functionality would be most valuable before launching its site in December: Its Net offerings now include high-end help-desk support, online configuration utilities and file libraries for buyer upgrades, among other things.

"The purchase price of a PC in the business world represents only 16 percent of the cost of ownership," says Hill. "By focusing on servicing the product, keeping it up to date and answering user questions through the Web, we can dramatically lower the three-year life-cycle costs of a PC."

Utility is less a challenge for designers of corporate intranets, which are useful almost by definition since they help an organization's employees perform their jobs better.

Intranets are proving to be the fastest way to implement technology to support redesigned business processes.

Currently, about a quarter of U.S. companies have deployed internal Web applications, according to Forrester Research, and another 40 percent are considering doing so. Those applications have generally involved collecting and distributing information, such as employee directories and divisional news. But now people are starting to recognize the Web's ability to integrate with internal systems and to integrate those systems with one another.

That development could have a profound effect on enterprisewide collaboration as the Web increasingly becomes the least-common-denominator vehicle for information sharing. The Lotus Notes versus the Web debate happening in many companies today testifies to how robust intranet technology is expected to become, and some experts predict that more than 100 million workers will be using the Web to collaborate by the year 2000. But the Web is no panacea, and there may exist problems for which it will never be the best solution. With that in mind, some analysts are beginning to describe a model in which traditional groupware survives but serves only the 15 percent of a company's employees are knowledge workers while intranets cost-effectively take care of everyone else.

Tapscott views intranets as the logical extension of open systems: software environments based on standards that enable the portability of applications and the interoperability of systems. And while he doesn't believe intranets solve the historical problem of integrating legacy operational databases, "they can be of huge benefit in document-oriented challenges," he says. "Companies such as Hewlett-Packard are using intranets to manage tens of thousands of documents; consulting companies are using them to attack the problem of knowledge management...[and they] are also proving to be the fast way to implement technology to support redesigned business processes."

A year ago, people were still talking about intranets as mere steppingstones on the way to "real" applications on the external Net. Today, many more describe both types of initiatives as being crucial to their organizations. The challenge now becomes integrating the two sets of talents and technologies to create a consistent, effective Web interface for users inside and outside of the company.

But that challenge, and all the others that go along with conducting Web business, can be faced only after the organization has accepted the rationale for getting on the Internet in the first place. As pragmatic applications become more plentiful and companies slowly — but surely — begin realizing quantifiable ROI, the decision to do so becomes easier to make.

CONFERENCE SESSIONS

SUNDAY, AUGUST 11

3:00pm-6:00pm
Conference Registration

7:00pm-9:00pm
Networking Reception

9:00pm-12:00am
Networking/Hospitality

MONDAY, AUGUST 12

7:00am-8:00am
Breakfast

Joseph L. Levy

8:00am-8:15am
Welcome & Opening Remarks
JOSEPH L. LEVY
Group Publisher & President
CIO Communications, Inc.

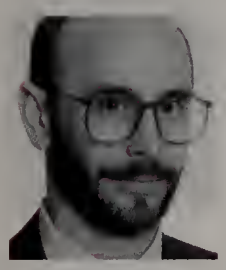
LEW McCREARY
Publisher & Editor-in-Chief
WebMaster Magazine

Lew McCreary

8:15am-9:15am
Challenging Tradition: The New Web-Enabled Business Model
DON TAPSCOTT
Conference Moderator
Author
The Digital Economy: Promise and Peril in an Age of Networked Intelligence

Don Tapscott

In this digital economy, individuals and enterprises create wealth by applying knowledge, networked human intelligence, and effort to manufacturing, agriculture and services. The players, dynamics, rules and requirements for survival and success are all changing. Such a shift in economic and social relationships is causing every company to think far beyond "reengineering" to transform itself for the new Web-enabled business model. A new enterprise is emerging –- the internetworked business. The new media is radically changing the operation of businesses, the nature of the economy and the challenges facing business leaders.


Jim Sterne

9:15am-10:15am
Winning the Internet Marketing Lottery
JIM STERNE
President
Target Marketing of Santa Barbara

The Internet lets you treat your customers the way they want to be treated – as unique individuals with unique needs. The ability to personally know your customers disappeared after the Industrial Revolution brought inexpensive transportation and mass production. We measure a small sample in order to predict the needs and desires of the many. We now we have the means to learn and remember each individual and each of their transactions. The winners of the marketing game will be the ones with the largest databases and the most perceptive software. The Web lets you implement that dream today.

MONDAY, AUGUST 12

10:15 am-10:45am
Coffee Break

Shikhar Ghosh

10:45am-12:15pm
Visionary Roundtable: The Web as an Engine for Business Mutation
MODERATED BY LEW McCREARY

Panelists:

SHIKHAR GHOSH
Chairman & Co-Founder
Open Market, Inc.

Thomas P. Kehler

THOMAS P. KEHLER
President & CEO
Connect, Inc.

JOHN KLUG
Founder & Chairman
Customer Communications Group

John Klug

ALEX ZOGHLIN
President, Director of Technology
Neoglyphics Media Corporation

Alex Zoghin

The potential of information technology to transform business processes remains a powerful idea that some organizations neglect. The emergence of the World Wide Web as a serious business platform may give reengineering a new lease. In the open, flexible, non-proprietary (and hence less costly) Web paradigm, systems remain works in progress that adapt organically to changing customer needs and business requirements. This roundtable features four Web development visionaries who will cite real-world examples and ways in which the Web's unique properties will revolutionize how you do business.

12:15pm-1:30pm
Luncheon

Larry Geisel

1:30pm-2:30pm
Is the Centralized Control of Information A Dead Duck?
LARRY GEISEL
Senior Vice President
Information Technology & CIO
Netscape Communications Corporation

To compete successfully in the information economy, companies must transform their underlying capabilities. The Internet changes all our assumptions. Private Internet networks, or Intranets, offer a flexible foundation for connecting knowledge workers and information to build a responsive, agile organization - far removed from the rigid, hierarchical structures of the past. The CIO must manage enterprise technology in this environment.

CONFERENCE SESSIONS

MONDAY, AUGUST 12

2:30pm-2:45pm
Coffee Break

2:45pm-3:45pm
Concurrent Sessions

4:00pm-5:00pm
Concurrent Sessions — Repeated

5:00pm-6:30pm
Reception

TUESDAY, AUGUST 13

7:00am-8:00am
Breakfast

Marc Sokol

8:00am-9:00am
The Web Feat: Corporate IT Embraces the Internet
MARC SOKOL
Vice President, Advanced Technology
Computer Associates International, Inc.

As organizations evolve to exploit the intranet and internet, they must create, manage and deploy new applications and media-rich content. Aggressive companies are extending their systems and network infrastructures to better embrace internal work groups, suppliers, partners, customers and prospective customers through Web enablement. This presentation will utilize real-life examples of how Fortune 500 organizations successfully use Internet-based enterprise systems.

Les Ottolenghi

9:00am-10:00am
Sleeping with the Internet: Using the Web to Increase ROI
LES OTTOLENGHI
Director of Emerging Technologies
Holiday Inn Worldwide

The Internet is either hailed or derided by corporate strategists, marketers and technologists. Is it a mecca for future commerce, holding the promise of electronic markets and a radically altered competitive landscape? Or is the Internet just a passing fancy? Computing the ROI of using the Internet compels a diversity of thought in a new territory where only antiquated tools force analysis which defies the logic, practices and understanding of the value the Internet holds. In this session, you will hear why considerations like interactivity, intranets and technology adoption by society are only a few reasons your company might find itself in bed with the Internet.

10:00am-10:30am
Coffee Break

TUESDAY, AUGUST 13

Philip L. Terry

10:30am-11:30am
Searching for Facts in All the Right Places
PHILIP L. TERRY
Knowledge Strategist
Moody's Investors Service

Creating environments for financial and business executives to effectively search the Web requires a variety of skills. Even within an investors' service, information needs vary greatly from analyst to analyst. Matching analyst to database or site requires knowledge not only of the organization's direction and strategy, but also the needs of each individual analyst's focus. Further complicating this task is the need to understand and internally market the Internet and its changing resources.

Dr. Robert E. Miller

11:30am-12:30pm
Transforming a Hospital to a Truly Integrated Delivery System: Beyond the Internet to the Intranet
DR. ROBERT E. MILLER
Director, Pathology Informatics
Johns Hopkins Health System

Internet-enabled electronic commerce technologies are making it easier to communicate with both internal and external customers and other business partners. Leading IS organizations have discovered that the same interfaces and navigation tools that have made the Internet an indispensable communication link with third-party business partners can deliver comparable benefits within their own organizations. This session will illustrate how Johns Hopkins is leveraging the Internet to achieve dramatic performance breakthroughs over the traditional approach of investing millions during an extended period of years.

12:30pm-1:15pm
Luncheon

1:15pm-2:15pm
Concurrent Sessions

2:15pm-3:15pm
Concurrent Sessions — Repeated

3:15pm-3:30pm
Coffee Break

George Gilder

3:30pm-5:30pm
The Web Changes Everything: Disintermediation & Beyond
GEORGE GILDER
Editor & Author
Telecosm
Senior Fellow
The Discovery Institute

The elimination of a middleman - putting the buyer and seller into direct contact - is a basic definition of

CONFERENCE SESSIONS

TUESDAY, AUGUST 13

disintermediation. Through new distribution and marketing channels, most prominently the World Wide Web, sellers are gaining direct access to purchasers without an intermediary. Those organizations that add value or create new business services will capitalize on this phenomenon rather than vanish. Will your enterprise flourish or perish? George Gilder will create a colorful picture of how to tap into future applications as sources of profit for information entrepreneurs.

5:30pm-6:30pm
Reception with George Gilder

WEDNESDAY, AUGUST 14

7:00am-8:00am
Breakfast

Tim Horgan

8:00am-9:00am
Delivering Business Value Roundtable: The Emerging Roles of Webmasters
MODERATED BY TIM HORGAN
Webmaster
CIO Communications, Inc.

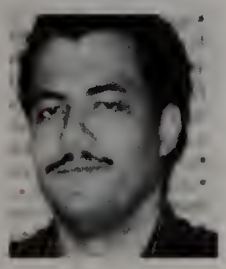
Panelists:

Matthew Cutler

MATTHEW CUTLER
Chairman
Webmaster's Guild
Founder & Director of Business Development
net.Genesis Corporation

Randy Hinrichs

RANDY HINRICHS
Internet Author
Web Design: A Different Multimedia


David Williams

DAVE WILLIAMS
Webmaster
Remedy Corporation

As the Web becomes widely used and accepted as an increasingly important business tool, the roles, responsibilities and challenges of the webmaster evolve and change. This requires that the webmaster understand and support the needs of the business, lead the effort to bring the Web to the corporate masses and avoid the political traps that come with information and power. This panel will examine the technical, political and organizational challenges faced by Webmasters and the strategies real-world webmasters have adopted.

Andy Greenawalt

9:00am-10:00am
Intranet Meets Internet: Unifying Development & Business Strategies
ANDY GREENAWALT
Vice President, Information Services Americas
Dell Computer Corporation

WEDNESDAY, AUGUST 14

Kenneth Hill

KENNETH HILL
Global Online Business Development Manager
Dell Computer Corporation

This session will compare and contrast the seemingly conflicting objectives between a large, structured IS organization and small, unstructured Web development teams. If your marketing department is starting to look like a "shadow IS" department, this session is for you. The session will cover business and IS strategies, risks, EDI/commerce, roles and responsibilities and how a leading direct manufacturer of personal computers has developed and executed a plan to address these issues.

10:00am-10:30am
Coffee Break

10:30am-11:30pm
CyberEthics for the New Medium
JOHN PERRY BARLOW
Cognitive Dissident
Electronic Frontier Foundation

Cyberspace is a social and economic space unlike any humans have ever inhabited before, seemingly immune to the laws of physical world goverments. Differing cultural notions of morality, previously insulated from one another by physical distance, are coming into increasing conflict in an environment where everywhere is everywhere. Against these limitations, the rule of law, as we've know it, may be diminished and replaced by the rule of ethics – ordering principles for behavior that arise from the collective culture of Cyberspace. Do such ethics already exist? Are they sufficiently robust to maintain something like civilization in the virtual world? These are the kinds of questions this session will tackle.

11:30am-12:00pm
Recap: Conference "Cliffs Notes"
DON TAPSCOTT

CONCURRENT SESSIONS

The Promise of Electronic Commerce: The BBN Vision
PRESENTED BY BBN PLANET

The Internet offers great promise as the infrastructure for a global electronic marketplace. For the promise to become reality, key infrastructural technologies must be in place: mechanisms to assure adequate bandwidth; network tools to assure quality; directory tools to help people find what they need; and public key infrastructure to support identification, authorization and privacy that, in combination, make the Internet secure. This session will discuss the BBN Planet vision for integrating and delivering the full array of electronic commerce services, in cooperation with other suppliers of key capabilities, to our customers on a global basis.

CONCURRENT SESSIONS

Michael Skubisz

Building Your Intranet
MICHAEL SKUBISZ
Director of Product Marketing
Cabletron Systems, Inc.

The key to the Internet lies within our internal corporate networks, or intranets. Intranets create a variety of challenges: security, management, capacity and, most importantly, cost. Intranets require a strong infrastructure that relies on switching, management and virtual networking. This session will address these issues by focusing on key infrastructure capabilities such as policy-based usage and security, management tools and network accounting. This informative session on building an intranet will help you find cost-effective solutions to your networking and business challenges.

Peter Solvik

Surfing on the Edge: High-Impact Business Applications on the Web
PETER SOLVIK
Vice President of Information Systems & CIO
Cisco Systems, Inc.

In addition to being the leading global supplier of internetworking solutions for the Internet, Cisco Systems has been an innovator in providing customer service, technical support and electronic commerce to its customers and partners via the World Wide Web. This session will review the business challenges that the company has faced in growing more than 1,000 percent in four years and how use of the Internet and corporate intranet have been key to a corporate-wide strategy to successfully scale and differentiate the company in a hypergrowth environment. The session will revolve around demonstrations of over 10 different Web-based Internet and intranet applications in use at Cisco today.

Marc Sokol

Netting Profits on the Web
MARC SOKOL
Vice President
Advanced Technology
Computer Associates International, Inc.

The explosion of the World Wide Web has created an unparalleled opportunity to reach new customers and expand into new markets. In this session, you will learn how to: implement and manage the industrial-strength infrastructure required for your Web presence; use state-of-the-art, object-oriented tools to author Net-enabled, multimedia applications that include video, sound and animation; and establish a database management system that is mission-critical, scaleable and self-manageable. This session will also discuss the three-dimensional, Real World Interface™ used to manage the entire infrastructure, including security, event and problem management, resource accounting and database monitoring.

Thomas P. Kehler

Creating a Virtual Sales Channel on the Internet
THOMAS P. KEHLER
President & CEO
Connect, Inc.

The market is now seeking a complete, secure Internet application that streamlines and automates the business-to-business sales channel for corporations, resellers and distributors. For the corporate developer, reseller and end-user alike, moving the power of today's complex custom order management systems to the Internet means better functionality, less expense, increased market share, and the ability to get up and running in a fraction of the time. This session will explore how Connect's Virtual Sales Channel™ is transforming business-to-business interactive commerce and reengineering the way in which goods are being distributed and sold.

David B. Fowler

Secure Desktop to Database Computing on the Web
DAVID B. FOWLER
Vice President, Sales and Marketing
Gradient Technologies, Inc.

Today's corporations need a new network paradigm that connects enterprises internally and externally, resulting in faster deployment of applications, broader – yet controlled – distribution of information, and better management and administration. At the same time, companies look to the World Wide Web to provide access to many sources of information. This can be done by combining the Internet with client/server computing, where the client is a standardized Web browser, the application server is a Web server and uses standard tools, and networks can be based on both LANs and WANs, public and private. This session will discuss how to make the Web a viable medium for communicating information securely and cost-effectively within and between enterprises.

Jan Silverman

Intranet/Internet Solutions for Business Advantage
JAN SILVERMAN
Director, Internet Solutions
Computer Systems Organization
Hewlett-Packard Company

This session will cover how Hewlett-Packard leverages intranet/Internet technologies to its own business advantage and the critical role security plays within those environments. Emphasis will be placed on HP's own use of its Intranet as well. The session also will present the company's strategy and offerings to help its customers implement intranet/Internet solutions to meet their internal business needs.

CONCURRENT SESSIONS

Mark N. Greene, PhD

Secure Transactions on the Internet
MARK N. GREENE, PhD
Vice President, Electronic Payments and Certification
IBM Corporation

IBM is a leader in developing technologies that enable secure transactions over the Internet. This session will discuss the company's secure payment system, an open set of technologies based on the Secure Electronic Transactions (SET) protocol. These offerings allow trusted electronic transmissions of credit card payments and communications on the Internet and other electronic networks. SET can be adapted to provide secure transactions on both public and private information networks.

Ed Koepfler

Strategic Advantage: Using the Intranet to Leverage Corporate Information Assets for the Enterprise
ED KOEPFLER
President and CEO
Interleaf, Inc.

Every corporation has a large intellectual asset: its mission-critical electronic documents. When maintained by an automated document management system and governed by corporate workflow processes, this critical information can be efficiently managed and easily leveraged as a corporate asset. The growth of the Internet has caused many companies to plan how this communications infrastructure can be utilized for corporate benefit or commercial gain. A key benefit of Internet technology is simple worldwide information access by different audiences. This session will use case studies to highlight the advantages of implementing secure document management systems for corporate business-critical documents and the advantages of using intranet technology to provide easy access to current information.

Thomas Tansy

Integrating and Managing Corporate Intranet Resources
THOMAS TANSY
Vice President of Sales and Marketing
NetCarta Corporation

The explosive growth of Web servers within the corporation demands new software solutions to manage Webs of information. Cyberspace cartography, or Web mapping, permits an integrated and unified approach to these ever-changing Webs of information, providing structure and visualization, making the information easier to access and more practical to oversee. Encompassing both server and client side elements, the single unifying approach saves time, resources and improves overall quality.

Joseph J. Chappell

Developing and Deploying Transaction-Based Business Applications On the Internet
JOSEPH J. CHAPPELL
Vice President, Enterprise Marketing
Progress Software Corporation

Many IS professionals have been asked to establish World Wide Web sites to increase their companies' market visibility. Some have gone beyond browsing capabilities and added dynamic information access to provide query capabilities for their Internet presence. The Internet provides an attractive solution for the development, distribution and maintainance of large-scale, transaction-based applications across a wide network of users. Internet deployment will enable corporations to extend the enterprise to reach a larger, more disparate group of users while reducing costs and complexity. This session will address emerging technologies for developing and deploying Internet-based business applications.

Defining Electronic Commerce
PAULA GEORGE TOMPKINS
CEO & Founder
SoftAd, Inc.

The definition of electronic commerce varies widely. Understanding its meaning is the subject of this session. You will learn whether electronic commerce will have an impact on your company's sales and marketing process, how electronic commerce will allow you to build alternative, low-cost sales channels, what kind of effect electronic commerce will have on your current sales distribution channels, who in your organization needs to be involved in getting your electronic commerce systems up and running, and when and how to use assisted and unassisted interactive selling techniques in your electronic commerce system.

Peter Kestenbaum

WANTED: Webmaster with 10 Years Experience
PETER KESTENBAUM
Director of Marketing, Northeast Area
Sun Microsystems, Inc.

Unfortunately, these people don't exist. This session will explore the various issues that keep webmasters up at night: how to make content decisions in a multi-faceted organization, how to maintain operational integrity and availability of your intranet, how to interface with your organization's reporting structure in marketing and corporate IS, and how to staff, recruit and train your operations staff. What should your optimal investment be in alternative sites? How do you measure the effectiveness of your Internet/intranet sites?

A Concurrent Session will also be presented by:
Silicon Graphics Computer Systems

CORPORATE HOSTS

BBN is a leading national provider of managed Internet access and value-added services for businesses and organizations. BBN Planet provides companies of all sizes with reliable Internet services, network security, web site development and hosting, system integration services and 24-hour-per-day monitoring. Through proven technical expertise and comprehensive services, BBN Planet helps customers make strategic business use of the Internet.

Cabletron Systems is the largest company in the world dedicated exclusively to computer networking products and services. With corporate headquarters in Rochester, NH, the company has more than 100 offices around the world and employs 5,700 people. Based on its Synthesis product framework, Cabletron develops, manufactures, markets and services both shared and switched-access internetworking products as well as the industry's most advanced network and systems management software. Over the last four quarters the company has reported record revenue of approximately $ 1 billion and earnings of $ 202 million.

Cisco Systems is the leading global provider of internetworking solutions, which give people access to information without regard to differences in time, place or type of computer system. Customers benefit from Cisco's internetworking solutions through more efficient exchange of information, which in turn leads to cost savings, process efficiencies and closer relationships with customers, business partners and employees. Cisco solutions are the internetworking foundation of thousands of companies worldwide, and Cisco is a driving force behind the global Internet. More than 80 percent of the backbone routers of the Internet are from Cisco, and Cisco is one of the best examples of a company that does business on the Internet, as it provides more than 70 percent of its customer support over the Internet.

Compaq Computer Corporation is the world's largest supplier of personal computers, offering desktop PCs, portable PCs, servers and options. The company reported 1995 worldwide sales of $14.8 billion. Compaq products are sold and supported in more than 100 countries through Compaq marketing partners and sold directly to customers through Compaq Direct Plus at 1-800-888-5858. Compaq provides 24-hour customer support and can be reached through the Compaq forums on America Online, CompuServe, Internet (http://www.compaq.com), and Prodigy, or by calling 1-800-OK-COMPAQ. Product information and reseller locations can be obtained by calling 1-800-345-1518.

Computer Associates International, Inc. is the leading independent software company in the world. CA develops, markets and supports integrated systems management, information and business-applications software for a broad range of mainframe, midrange and desktop computers. CA serves the international marketplace through direct operations in 29 countries.

Connect, Inc. is the leading provider of Internet-based interactive commerce and order management applications for companies that want to leverage the Internet as a new sales channel. The company develops market leading interactive commerce applications including OneServer™ and OneServer OrderStream™. OneServer is the industry's most robust, open and scalable applications platform for high-end interactive commerce. OneServer OrderStream is the first Internet-based order management application to create a Virtual Sales Channel™ for business-to-business transactions.

Founded in 1989, **Gradient Technologies** has long been an active supporter of open systems standards organizations and is a member of the Open Software Foundation, the Object Management Group, and X/Open. Gradient's licensing software has been selected by the Open Software Foundation for inclusion in its reference port of the OSF's Distributed Management Environment. Gradient's joint submission with IBM and Digital Equipment Corporation for object licensing was recently selected by the Object Management Group as its object licensing standard and Gradient's DCE product line has been based on the OSF Distributed Computing Environment since its inception. Gradient is privately held and based in Marlborough, Massachusetts with worldwide operations and distribution.

Hewlett-Packard Company is a leading global manufacturer of computing, communications and measurement products and services recognized for excellence in quality and support. HP is the second largest computer supplier in the United States, with revenue in excess of $31 billion in its 1995 fiscal year and 102,300 employees worldwide. HP has a strong history of leadership in open systems and in the development of standards-based products. This standards-based strategy enables customers to select the best available computer products from HP and other vendors and link them into open, cooperative networks that make information easier to acquire, share, manage and use.

CORPORATE HOSTS

IBM Corporation is the world's largest manufacturer of information systems for business, the home and the Internet. It is also the world's largest software producer. Based in the United States, IBM does business in virtually every country in the world. In each of these markets, it is regarded as one of the leading corporations. IBM designs, develops, manufactures and distributes information technology solutions that include everything from sub-notebook size personal computers to the largest supercomputers. The hardware solutions are enhanced through IBM's comprehensive software, customer service and maintenance offerings. One of the founding developers of the Internet, IBM offers easy and comprehensive solutions to help people get connected to the Internet and take full advantage of its tremendous resources.

Interleaf, Inc., is the leading worldwide supplier of integrated document management software, services and tools for networked and Web-based business solutions. The Intellecte family of knowledge management products is advanced, open software for the electronic assembly, management, retrieval, distribution and publishing of business-critical information. Interleaf is headquartered in Waltham, Mass., with offices around the world and over one million users worldwide. Information about Interleaf's products is available on the World Wide Web at http://www.interleaf.com or from Interleaf Direct at 1 (800) 955-5323.

NetCarta Corporation is the leading provider of World Wide Web mapping solutions. Web mapping is a technology used to structure, visualize, and manage hyper text-linked webs of information. Information webs of this type include the Internet-based World Wide Web and those found in the information systems of large businesses. Applications of web mapping include web management, advanced navigation, site analysis, structure-based search and retrieval, and concept-based NetCarta WebMap™ publishing. The goal of NetCarta is to make information webs easier to access and more practical to oversee.

Progress Software Corporation is a leading worldwide supplier of application development and database software. The PROGRESS product line enables developersto rapidly and economically build and deploy enterprise-class client/server, host-based and Internet-based applications for Oracle, Sybase, PROGRESS, SQL Server, ODBC and DB2/400 databases. Progress Software has made a commitment to safeguard its customers' investment in applications that are deployed in today's multi-architecture environment. The PROGRESS product line is sold directly to IS organizations and through more than 2,300 Application Partners (VARs) who offer thousands of applications to a wide variety of industries. More than $1.5 billion worth of PROGRESS-based applications were sold in 1995 by Application Partners globally.

Silicon Graphics is the leading supplier of high-performance visual computing systems. The company has defined new classes of visual computing and transformed them into practical, cost-effective solutions. The company, founded in 1982, employs approximately 7,200 people in 65 domestic and 65 international locations. Silicon Graphics is recognized as the third-largest workstation vendor and the fourth-largest supercomputer vendor in the world. Listed on the New York Stock Exchange under the symbol SGI, Silicon Graphics derives approximately 50 percent of its revenues from sales outside North America.

SoftAd

SoftAd is a pioneer and leader in the development of software components that allow corporations to conduct electronic commerce. SoftAd's SalesExcelerator™ and WebExcelerator™ products allow the buying and selling of goods and services through technology based on line trade. These products also allow a company to open new sales distribution channels and customer transaction models (Assisted and Unassisted interactive selling) through computer technology. SoftAd's WWW address is http://www.softadgroup.com.

Described as the "King of the Internet" by Business Week magazine, **Sun Microsystems, Inc.** is the premiere provider of open systems and solutions for the enterprise and Internet. Among the Internet and networking technologies developed at Sun are: NFS, the open standard for file sharing across networks; Java, the first programming language to provide a comprehensive solution to the challenges of delivering applications across public networks such as the Internet; HotJava, an interactive, multimedia Internet web browser; Netra, a "plug and play" solution for Internet connectivity to PC-LANs; and SunScreen, a sophisticated network security solution. Sun, a Fortune 120 company, was founded in 1992 and has annual revenues of $6 billion and 14,000 employees worldwide. Sun Microsystems is headquartered in Mountain View, California.

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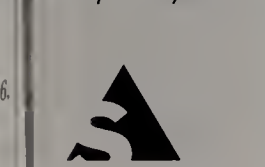

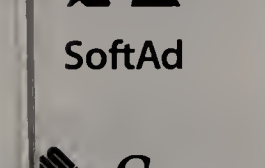

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Read Instruments

ClariNet subscribers can peruse all the news that's fit to transmit

In the accelerated time line of Net history, Brad Templeton could almost qualify as a founding father. He was an online maven before anyone used bad transportation metaphors to describe the Net, and he was making money from his Internet ventures back when surfing required waves.

Templeton's ClariNet Communications Corp., which started almost seven years ago in San Jose, Calif., is one of the oldest and most successful providers of news via the Internet. The company's flagship product, e.News, reaches more than 1 million paid subscribers through site-licensed Internet access providers (IAPs), universities and corporations. The company's annual profits register in the seven figures, a particularly impressive feat given that the site license fees average only $1 per user per month, or a little more than three cents per day.

E.News is an all-you-can-eat smorgasbord of daily news, providing thousands of stories from a dozen sources in 500 categories. The distribution process works akin to a bionic paperboy with a worldwide route and a pouch the size of Texas. ClariNet receives constant newsfeeds from providers such as Reuters, The Associated Press and Commerce Business Daily. Each provider sends information two ways—through dedicated lines and satellite transmissions, for example—so that if one pipeline goes down, the news flow continues.

Stories are then sorted into categories such as "white collar crime," "Ukraine, Belarus, Baltics, Moldova" and "human interest stories about animals." (A Web page with general news briefs is available free at *www.clarinet.com.*) Most of the sorting is done by computers, but ClariNet's editorial staff of five performs finer sorts and edits stories, some of which arrive as radio transcripts or in other nontext formats. The company ships 9MB of news daily via the Net to its licensed distributors, who post it on a local server for subscribers. Subscribers can then access the stories using a Web browser or news-reader software.

PHOTO BY ROBERT KOESTER

Templeton says the flat-rate structure is one of e.News's greatest advantages over other Net news services. "No one out there seems to have made a success out of, 'Here's my Web site; pay me a few dollars and now you can get at my [content],'" he says. "One thing, one package, one company's output is tough to sell. But a ton of material—megabytes and megabytes of multiple sources—that we have managed to sell."

In a business climate that increasingly favors mass customization, ClariNet stands alone in its dedication to providing pure mass. Rather than serving up a "news you can choose" model of content, carefully presorted to reflect the preferences of the customer, the company takes the "more news than you can shake a stick at" approach. That means

subscribers must sort though the schlock they don't want, but in return they have more control over choosing the stuff they find valuable

"You're in control. You can read one story or 1,000 stories, search it, put it on your machine—whatever you want to do with it," Templeton says. "That fits very well with the way people want to buy things."

Templeton's interest in the Net began in the mid-1970s, when he got an e-mail account while working as a programmer at PSI/VisiCorp, as the publisher of the first electronic spreadsheet. Though he was fascinated by the amount of free information available on the Net, Templeton found that, in many cases, he was getting what he paid for: nothing. He considered one Usenet group he frequented (*rec.humor*) to be so consistently lame that he decided to start his own version (*rec.humor.funny*), maintaining a modicum of quality assurance by personally weeding through all the jokes submitted. That newsgroup quickly became one of the most popular and still attracts half a million visitors daily.

Sensing the entrepreneurial potential of providing information that Netheads would find worth paying for, Templeton collected about a year's worth of those jokes and published them in a book, which he advertised through the newsgroup. "Some people complained," Templeton says. "But I knew that in spite of what people said—the party line about the Net being noncommerical—the truth was, if the commerce made sense, it was OK. You would get away with it."

So he decided to see if he could get away with a bit more, at first by pursuing the rights to distribute humorist Dave Barry's columns online. But the corporate types at the syndication company couldn't wrap their heads around the concept: Interwhat? Netwho? Fortunately, the newswire services were more receptive. "I was able to convince [them] to give me enough of a deal to start this experimental business," Templeton says.

Though the amount and variety of ClariNet's content have increased severalfold over the years, Templeton maintains that readers are most impressed with an attribute the service doesn't really have—they think it's free. "Users will often say, 'I get ClariNet free with my Netcom account,'" Templeton explains. "That illusion of freeness has turned out to be a good marketing technique."

And marketing has become paramount for ClariNet as the competition in the Net news niche intensifies. While Templeton acknowledges the gains made by Individual Inc. and other vendors of customized news delivery, he remains committed to ClariNet's mass-to-the-masses model. As for newspapers that have chosen to fire up the electronic presses, Templeton sees them appealing largely to local readers who want community news. Users looking for greater breadth and international coverage will remain loyal to ClariNet, he says.

Nor does ClariNet compete with news-gathering organizations such as *The New York Times* and CNN, although it does use many of the same sources, says ClariNet President and COO Roy Folk. "We don't design our service to do what the news generators have done for years," Folk says. "What we need to do is find a way to do for news what people expect computers to do...sort, classify and deliver more quickly."

"That illusion of freeness has turned out to be a good marketing technique."—Brad Templeton

The most surprising phenomenon amid all of this growth in the whole Net field, according to Templeton, has been the degree to which the Net community has remained unchanged despite Internet commerce. "I used to think that when the big, outside world 'discovered' the network, it was going to be as 'nice' as it was for the Native Americans when the Europeans 'discovered' this piece of land," Templeton says. "We thought the world would come in and take us over—change would happen. Instead, the outside world has come out and said, 'Hey, how can we be more like you?'"

Respecting this native Net culture is a key part of success for any Net business, Templeton says. "The Net is not a resource for you. It's not an audience or a thing for you to exploit," he says. "It's a community in which you can participate. Nobody is upset at the fact that there are stores and there are people making money, and business goes on. What people are offended at is if they are just seen as a tool."

–Cheryl Dahle

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Netrepreneur Update

The Young and the Flexible

MUTABILITY IS EVERYTHING AT TRIPOD

The offices of Tripod Inc. (*www.tripod.com*), a Web-based service that helps recent college graduates take care of the personal business that arrives with adulthood, look more like a fraternity than a corporate headquarters. The little white house in Williamstown, Mass., is cluttered with sleds, music CDs and empty beer cartons. Muddy mountain bikes lean against walls decorated with rock posters; Trout, also known as Tri-Pup, the company pet, greets visitors as they walk in the door.

Such paraphernalia is to be expected in an organization where 12 of the 16 employees are under 30. That age group also constitutes its target audience: Tripod aims to teach college grads things they never learned in class—like how to buy insurance or set up an IRA. Conceived in 1992 by Williams College students Bo Peabody and Brett Hershey and their professor, Richard H. Sabot, Tripod launched on the Web in April 1995. *WebMaster* profiled the company in its June/July 1995 issue.

Wolfing down a vegetable burrito, Peabody explains how Tripod has changed since last summer. Most significantly, the company has raised over $2 million, much of it from the venture capital firm New Enterprise Associates and some from private investors. In May 1996, Tripod spent a good bit of that money to acquire *Keys to Success*, a magazine that is circulated to about 1 million students on more than 4,000 college campuses, from Prentice Hall. The magazine, which targets a portion of the same audience as the Web site, will be relaunched—in print—in September under the name *Tools for Life*. There's also talk of a series of Tripod guide-to-life books, which could open up new advertising, partnership and other revenue-generating opportunities.

Tripod has also beefed up its interactive services, offering a free home-page builder, resume

Mattress company's Web site racks up 652,461 hits.

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Intranet Resource Center: Case studies, articles, reports, seminars and links pertaining to Intranet development and strategy

INTERACTIVE FORUMS FOR THE EXECUTIVE COMMUNITY

Interactive Article Forums: Selected articles in *CIO* Magazine will continue on the Web as interactive discussion forums

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assistance and a service that reminds members about birthdays, bills and appointments via e-mail. Now that membership has reached critical mass—40,000 people in 101 countries and growing at the rate of about 10,000 new members every month—the company is concentrating on improving customer service and building a sense of community by letting staff answer personal and financial queries. Tripod is also experimenting with customized services and customer profiling, although "generally, not big brothering," explains Tripod's director of communications, Kara L. Berklich.

While all these developments are indications of success, Peabody admits that much of what he believed would make money a year ago has not panned out. He had originally envisioned charging a membership fee but now considers that idea "asinine." Eventually that model will be feasible, he says; for now, there's just too much on the Web to create sufficient brand loyalty.

But Peabody believes that once the novelty of the Web wears off, people will crave substance and quality and will be willing to pay to get it. "Web sites are going to add 10 times the value of a [paper] magazine, and people are willing to pay for subscriptions," he says. "I'm at that point now with search engines. They add enough value that if they asked me to pay, I would."

In the short run, Peabody says, advertising is Tripod's best hope for a sustainable revenue source. But while he has already signed up such companies as Calvert Securities Corp. and Performance Systems International (PsiNet) Inc., Peabody concedes that recruiting new Web sponsors is difficult. "Advertisers don't understand what the medium is doing for them," he says. "They have no models for it. If you take that and combine it with a new company—it's a really tough sell."

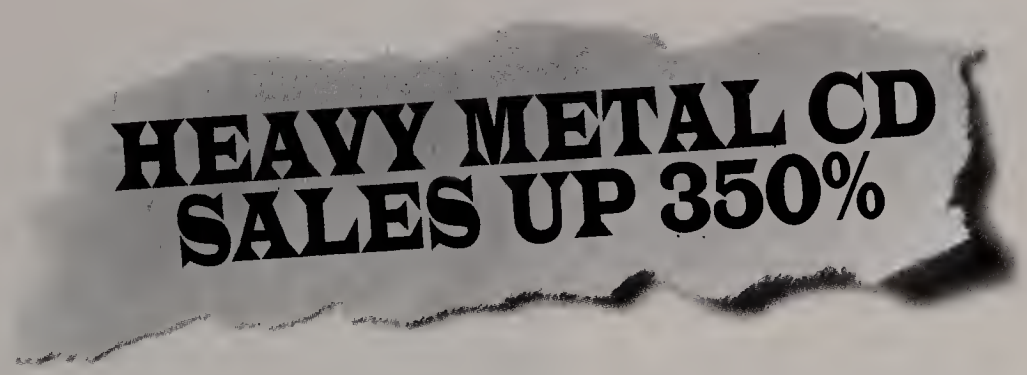
With paid membership still down the pike a ways and advertising hard to come by, Peabody now hopes to generate revenue through electronic transactions. In addition to peddling its own wares—including Web site hosting and T-shirts—Tripod will also take a cut for selling other companies' goods, such as Student Advantage's student discount card. And the company plans to extend online travel booking and banking to its members as well; at press time, it was hammering out a deal with Security First Network Bank (*www.sfnb.com*), the Web's first exclusively online bank.

One aspect of Tripod's evolution is especially notable: its penchant for doing things backward. While most companies develop a product or service, brand it and then slap something on the Web as a way of extending that brand, Tripod built its identity as a publisher on the Web and is now expanding into more traditional products, such as the print magazine, which in turn reinforce the Web presence. Peabody says he is delighted by progress in any direction and is—as he should be in a business that reengineers itself every few weeks—ready for anything.

"It's so hard for any of us to say where we're going to be in one, two—forget three—years," says Peabody. "Think of how much has changed since you wrote that article in July [1995]. We don't even do budgets more than three months in advance." WM

–Jennifer Bresnahan

www.tripod.com



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Drag Net

THE STORY YOU ARE ABOUT TO READ IS TRUE. THE NAME OF THE OFFENDING COMPANY HAS BEEN CHANGED BECAUSE WE'RE NICE. **BY JIM STERNE**

our months ago, I got a new T-shirt for being one of the first to sign up for an account at Security First Network Bank FSB (*www.sfnb.com*). I later received paper checks, an ATM card and a mouse pad from this little bank in Pineville, Ky. Best of all, I was told that I could view on the Web images of checks I had written.

Of course, I didn't write any checks. I didn't move my entire banking entourage from Bank of Industrial Giants (BIG), where I've had accounts for more than 20 years, to a whole new bank just to be on the Web. I was patient. I could wait.

I watched as Bank of America got on the Web. I bided my time as Wells Fargo got on the Web. And then came the announcement—BIG was webifying: Go to *www.industrialgiants.com* and view your account information. I was about to practice Web banking for real. Not with a play account but with real money. My money.

Not only that, but I had a legitimate need. This wasn't going to be one of those "Look! When I hit this switch the light goes on!" experiments. No, this was the genuine article. I'd been expecting a wire transfer from Lisbon and wanted to know when it hit my account. I was in the dark and needed illumination.

It was techno-Christmas again. I was about to add a new technology to my personal bag of tricks. I swear my breathing got shallow.

I went straight for the BIG site and found the form to fill out. Name, address, Social Security number, account number, access code. Access code? I typed in my personal identification number from my BIG ATM card. Then I was asked for the date and amount of my last deposit. <Submit>.

"Some of the data is invalid. For your safety, your access code will have to be reentered." Recognizing immediately that I was out of my depth, I called the 800 number on the screen. The helpful human asked me to repeat all of the same information I had just entered in order to verify that I was me.

"Sorry, Mr. Sterne, but that's not your access code. You don't have an access code. Please call the Online Banking Center and follow their instructions."

Another 800 number, and the voice response system asked me for all of the same information I had just entered in order to verify that I was me. Then it asked me to create my own access code. I made a choice and hit pound.

"Please reenter your code for verification." I changed my mind, having thought up a more memorable four-digit number. "We're sorry, but your number doesn't match the previous entry." Yes, I knew that. I wanted a chance to start over. I expected to loop back to the first entry. But no: "Please reenter your code for verification."

OK, so I was stuck with the crummy number I picked first. Fine. At least I was in. I went back to the BIG Web site and entered the batch of information they asked for.

"Some of the data is invalid."

I called the 800 number. The helpful human asked me for

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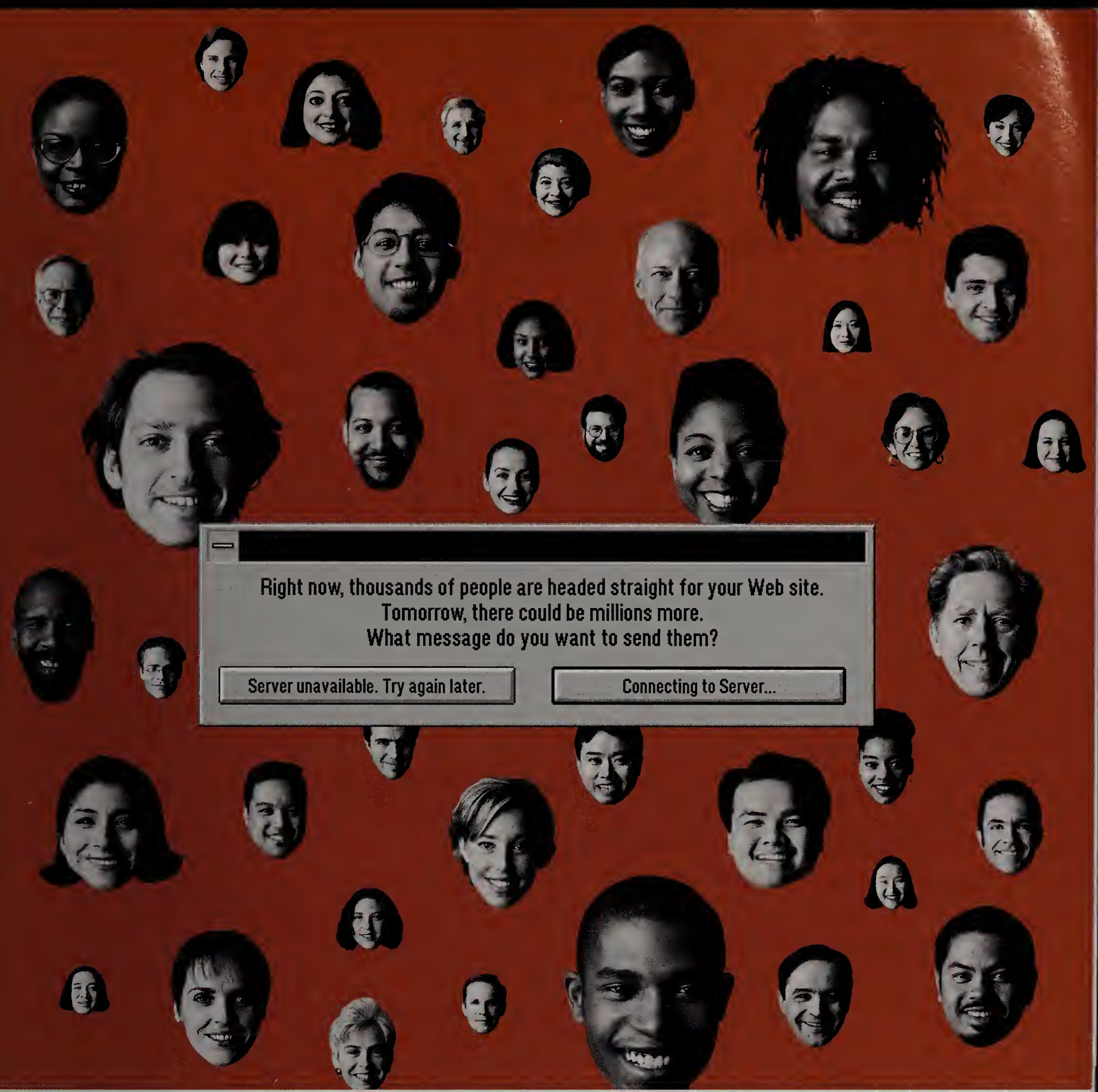

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all of the same information I had just entered in order to verify that I was me. "The date and amount of your last deposit are incorrect," she told me. "Your last deposit was an interest payment made to your account last week."

How could I have known?

"You could have checked at our Online Banking Center."

Your approach to the World Wide Web is missing one critical element: You're not taking it seriously.

Of course. I went back to the BIG Web site and entered the batch of information they asked for.

"Some of the data is invalid. Error—too many attempts for this account."

Another call to the 800 number. The helpful human asked me for all of the same information I had just entered in order to verify that I was me.

"Mr. Sterne, this is your business account."

Yes?

"Our Web site doesn't handle business accounts yet."

Oh. And sure enough, right there in the Web text, it said so. I should have read the damn thing instead of just pushing buttons.

"Try your personal account."

OK. Fine. I was trained. I was experienced. I was ready.

"Some of the data is invalid."

The helpful human asked me for all of the same information I had just entered in order to verify that I was me. "Mr. Sterne, that's not your Social Security number."

I beg your pardon?

"It's close, but it's one digit off."

I assured her that my trusty Social Security number had not changed since I got it, and that it was correct on all my other banking papers. Could they have had a small data-entry mishap perhaps?

"Let me just try to fix that for you from here."

Thank you. "You'll have to wait 24 hours for the database to update." Right.

The next morning, still in doubt about that transfer from Lisbon, I went back to the BIG Web site and entered the batch of information they asked for.

"Some of the data is invalid."

"Mr. Sterne, you had a miscellaneous credit from a direct transfer."

"Some of the data is invalid."

The helpful human asked me for all of the same information I had just entered in order to verify that I was me. "Mr. Sterne, why don't you try the wrong Social Security number and see if that works?"

"Some of the data is invalid. Error—too many attempts for this account."

"Mr. Sterne, why don't you try your savings account instead?"

Now, you must understand that I am a certified Nice Guy. I am a card-carrying member in good standing of the Doesn't Get Wigged Out When the Airlines Cancel His Flights, Reroute Him Through Guam and Lose His Luggage Club. I pick up stray dogs. I'm a willing experimentalist. To a point. Then the line is crossed. I become a square. I feel boxed in.

"How long have you been testing this Web site?"

"It went live on Monday."

"Yes, but how long was it in test before it went live?"

"Um, I'm not sure. We're all just trying it out and getting the hang of it this week."

"When will business accounts be available?"

"They haven't told us yet."

"Can you tell me if there has been a deposit from Lisbon?"

"Well, if you'll just call our Online Banking Center, I'm sure you can find out there."

Of course.

Dear Bank of Industrial Giants:

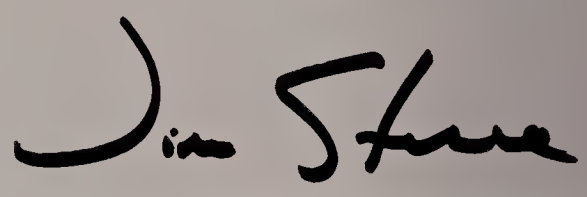
I am a long-term customer. I am writing this letter on my own time, of my own volition, in order to help you in this, your hour of need. That makes this one of the most important types of documents that will ever cross your desk.

Your approach to the World Wide Web is missing one critical element: You're not taking it seriously. I cannot imagine you would roll out a new car-loan procedure, a new auto-teller transaction or a new direct-deposit program without some serious planning, testing and debugging.

Your efforts on the Web to date show a decided lack of respect. Your lack of respect for the Web translates into a lack of respect for your customers. I find myself looking forward to your acquisition.

Thank you for your time, and please note my correct Social Security number.

Sincerely, a once loyal customer.



After 20 years with BIG, after getting to know the loan officer there on a personal basis, after all the loans, the accounts, the transactions, I think it's time to call Security First. After all, they did send me that nice mouse pad. WM

Jim Sterne (jsterne@targeting.com) *is president of Target Marketing of Santa Barbara. His book* World Wide Web Marketing *is available at major bookstores or through a visit to* www.targeting.com.

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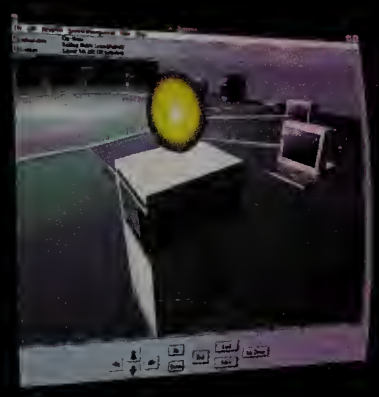

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YOU COMMISSIONED IT. YOU PAID FOR IT. BUT THAT DOESN'T MEAN YOU OWN IT. BY THOMAS J. SMEDINGHOFF

Rights and Wrongs

Do you know who owns your Web site? That's not the same thing as asking who owns the rights to your domain name, another controversial issue. Rather, the question pertains to the content that appears on your site, who owns that content and what rights you have to use it.

Web site content may include plain text and data, photographs and graphics, and, increasingly, sound and video. "Ownership" of this content may involve the interplay of several kinds of rights, including copyright, trademark, publicity and privacy rights.

The most important of those rights is copyright. If you are a content creator, copyright is your ally; if you want to use material created by others, it can present obstacles.

When someone designs and develops your Web site, or any of the content it contains, copyright is automatically created. But in many cases, you may not own the copyright, and even if you do, other rights (such as those covering trademark and publicity) may restrict your ability to use it.

If your employees do all the creative work for your site, then the copyright belongs to you—no problem. But if you've outsourced part of the work to a freelance artist or to a Web site development company, the contractor owns the portion that it produced, unless it has assigned the rights over to you or entered into a written work-for-hire agreement. And if you've outsourced all your content, the contractor—in effect—owns the rights to your site, unless both parties have agreed otherwise.

Likewise, just because you've paid someone to create content for distribution in some other format (such as print) doesn't mean you can republish that content online. All those beautiful brochures that your advertising agency developed for you last year might look awesome on your Web site, but if your contract with that company authorizes only print distribution, you're going to have to go back to them and ask permission—and maybe throw in a few extra dollars—for the electronic rights. To ensure that you are free to publish all future material on the Web or elsewhere, it's a good idea to obtain all rights from the developer upfront. Alternatively, use a license agreement that gives you worldwide rights, including electronic rights, in all media now known or hereafter developed, and adjust your payments accordingly.

In some cases, it is possible to use preexisting content without obtaining the copyright owner's permission—for example, if you want to reproduce material that's already in the public domain. But determining whether something is in the public domain is often difficult. Unless it was published before 1922, the age of the content is not neces-

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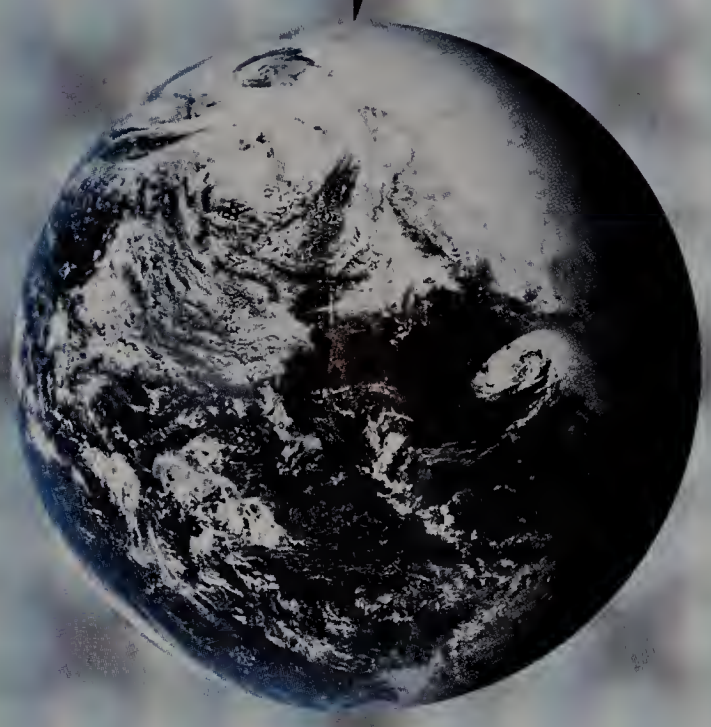

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sarily an indicator of its status. And don't be misled by the mere absence of a visible copyright notice: The law no longer requires one.

You are also free to appropriate the noncopyrightable portions of an otherwise copyright work. In one recent case, a Web site operator purchased a CD-ROM containing more than 95 million phone numbers, which he copied onto his Web site. A court ruled that while the CD-ROM's search engine was protected, the names and numbers were not and that therefore the site owner had done nothing wrong.

"Fair use" also protects the duplication of some copyright material, but it can be difficult to determine what falls into that category. And the concept has scarcely been tested on the Web: The only relevant case to date involved an individual who posted writings of the Church of Scientology to an Internet discussion group for purposes of criticism and comment. Ultimately, a court ruled that the posting was not fair use because the defendant posted most of the copyright document and added very little criticism of his own.

Use a license agreement that gives you worldwide rights, including electronic rights, in all media now known or hereafter developed.

But don't count on clear sailing even if you possess the copyright to all the content on your site. You may have created everything with your own hands, but if it incorporates information about another person, you could run afoul of the rights of publicity or privacy.

The right of publicity gives everyone the ability to control and profit from the commercial use of his or her own identity. Content developers may infringe on that right by using a person's name, including nicknames and professional or group names; photographic or video images; likenesses such as portraits or drawings; voice recordings; and imitations or impersonations. For example, a court held that an ad depicting a robot in a wig posed on the set of a futuristic game show suggestive of "Wheel of Fortune" violated hostess Vanna White's right of publicity. Bette Midler was similarly successful in a suit against the Ford Motor Co., which had featured a Midler tune performed by a sound-alike in one of its commercials.

The flip side of publicity rights is privacy rights, which emerge from the general principle that everyone has the right to be left alone. The right of publicity and the right of privacy are typically infringed when someone's identity is applied in a commercial context without his or her permission. However, while the right of publicity protects a person's right to profit from the commercial use of his or her name or likeness, and typically involves celebrities, the right of privacy protects a person's interest in avoiding the spotlight. Cases testing this law have included a Vietnam veteran's suit over the use of his photograph to advertise a book and Jacqueline Onassis's suit over an ad for Christian Dior products featuring a model who obviously resembled her.

Privacy rights are not limited to commercial context. Any type of publication that places a person in "false light" in a manner that is "highly offensive to a reasonable person" also constitutes an invasion of privacy. False light claims have involved things like the use of stock footage of a Mardi Gras parade, with recognizable people, as incidental background to an adult film. Web technology—which makes it easy to combine images, sounds and information formats—opens up considerable potential for this type of violation.

Finally, there's the trademark problem. You should consult with your organization's legal department before posting your own trademarks on your site to make sure they are properly used and protected in all countries that are important to your business. But you also have to worry about the trademarks of others. The incorporation of another organization's trademarks on your site might improperly imply that it, or the products it promotes, are created by, associated with or endorsed by the trademark's owner. Similarly, if you create a hypertext link that falsely suggests a relationship with or endorsement by the creators of another site, it could violate unfair competition laws. For example, if an online shopping mall includes a link to a retailer who did not consent to being in the mall, that company could claim that the link falsely implies that it sponsors, approves or is otherwise associated with the mall.

That ability to hyperlink, as well as to easily copy digital material, makes the Web especially ripe for abuse. As cases emerge to address these issues, the definitions of what is and what is not acceptable will grow increasingly clear. In the meantime, companies must act carefully to avoid infringing on the rights of others and to preserve the value of their own assets. WM

Thomas J. Smedinghoff (smedinghoff@mbc.com) *is a partner with the Chicago law firm McBride Baker & Coles* (www.mbc.com). *His new book is* Online Law: The SPA's Legal Guide to Doing Business on the Internet *(Addison-Wesley Publishing Co., 1996).*

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Sites of Passage

A MODEST PROPOSAL FOR SERVICE-ORIENTED SITES THAT WILL DRAW EVEN RELUCTANT CONSUMERS TO THE WEB **BY LEIGH BUCHANAN**

One afternoon in March, as I was standing amid stacks of cartons in my soon-to-be-former kitchen scraping tape off the refrigerator with a butter knife, my thoughts wandered—as they invariably do these days—to the World Wide Web. I was in the process of moving, a horrific undertaking even in the best of circumstances, and it struck me that there really ought to be some way to make the blizzard of relocation-related arrangements—from redirecting my mail to enrolling my kid in school to registering with the local video store—online, from a single site.

That site began taking shape in my mind, and it was good. In the course of about 10 minutes, it had evolved into an idea for a full-fledged business, which I think some industrious soul ought to launch immediately. (Not me, however. My family has a troubled history in this area: My father recently abandoned his plan for a Web-based art gallery directory that he assured me he could run perfectly well without ever having to learn e-mail.)

Ideally, this business would be branded by some central entity, such as Welcome Wagon International, which would create standards and offer technical and marketing support. (There are, in fact, a smattering of Welcome Wagon sites around the Web, but they are mostly just lists of local representatives and their addresses and phone numbers.) Welcome Wagon would then license the model to a chamber of commerce or some other organization within an individual community. Each community's site (*www.welcomewagon/mytown*) would include pertinent local data—tax rates, SAT scores, median home prices, etc.—as well as local history and interesting facts (for example, I am very curious as to how my own town, which is relatively obscure, managed to snag the ZIP code 01776 from its more celebrated neighbors, Lexington and Concord). There would be real estate listings on the site, enhanced with mapping capabilities, and links to local movers who would provide me with online estimates once I entered information about the size and number of my belongings. But that, as they say in the marketing biz, is only the beginning.

The site would also contain official change of address forms that I could fill out online and submit directly to the U.S. Postal Service as well as less-official "cards" that I could e-mail to companies I do business with and to friends and family. (Those suckers cost as much as $1 apiece in some of the fancy-pants stationery stores around here; I'd rather just lose touch.) There would be a place to arrange for my utilities and cable service to be activated, a place to redirect my newspaper delivery, and a place to change my voter registration and the address on my driver's license. In 10 minutes I could enroll my kids in school, sign up for a library card and become a member of the local YMCA. There might even be a forum where I could ask questions of local residents: Are there any intersections I should avoid at rush hour? Where's the best place to go for brunch?

The site would be funded by advertising from—who else?—local merchants, who could offer me online coupons tailored for new residents. (My mailbox has been stuffed with such offers of late, and as someone who needs practically every service under the sun—from new locks to a new lawn—I am highly receptive.) And since it presents an opportunity to win the loyalty of someone who may have decades of business to bestow, I

ILLUSTRATION BY DAVID COWLES

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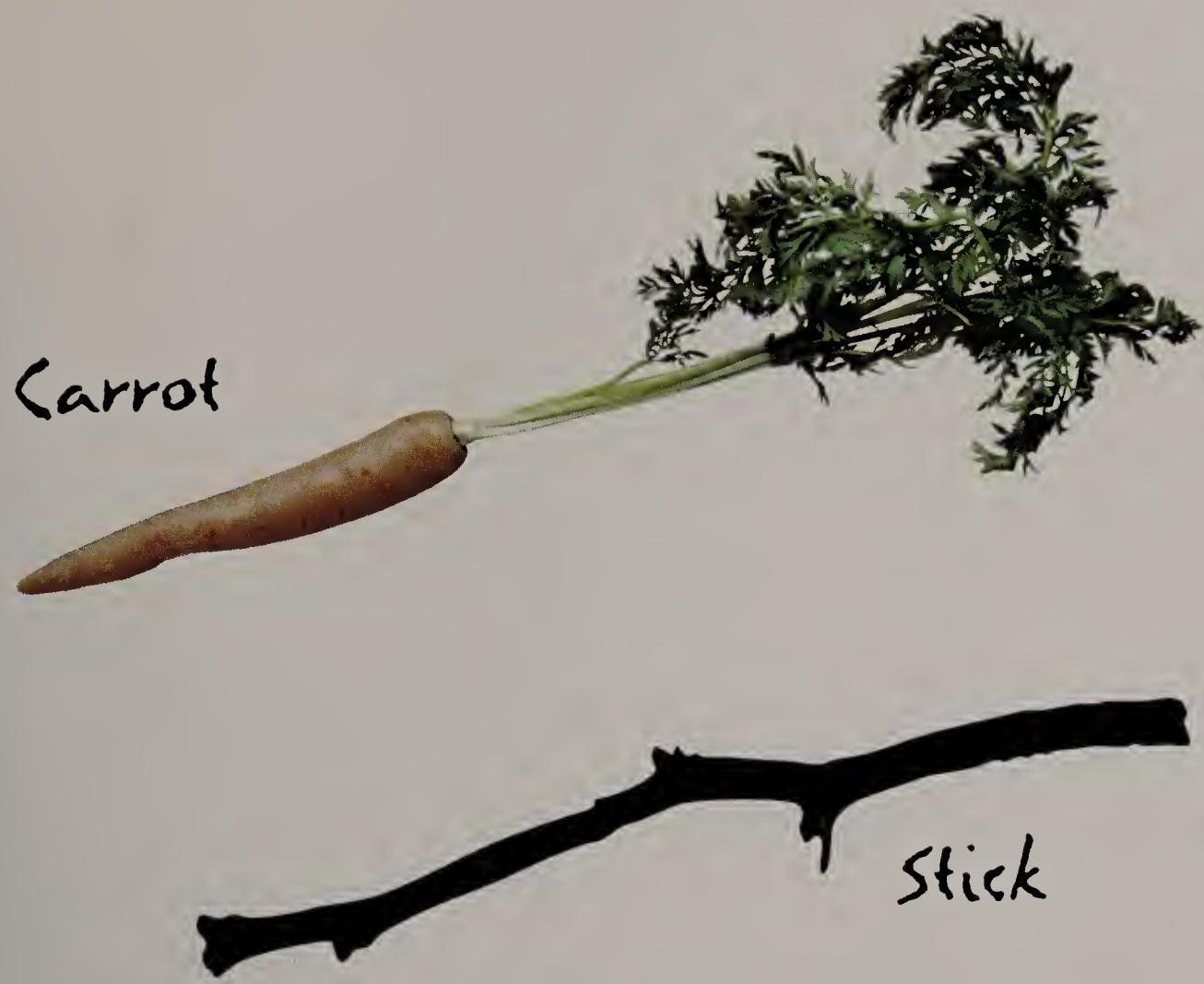

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can't imagine that many businesses would not participate in such a venture.

What I think is so interesting about this idea is that it would draw to the Web people who might never have tried it otherwise. For a consumer, there might be no compelling reason to go online to buy a garlic press or a macramé plant hanger. But if that consumer could use the Web—at one of the busiest and most stressful periods of his or her life—to perform in an hour the dozens of tasks that would typically involve days of running around and are often overlooked amidst the chaos—well, who wouldn't?

And it occurred to me, then, that this model might be expanded to other major life events as well, in the process winning even more adherents to the Web. After all, millions of people buy books on how to plan a wedding or prepare for childbirth, but those tomes scarcely ever contain local information—certainly not updateable local information. And although such books may provide pointers on how and where to make the requisite arrangements, you can't use them to actually make the arrangements themselves. (Pursued offline, those arrangements typically necessitate long periods spent standing in lines, waiting on hold or hoping against hope that a critical form or application didn't disappear into some postal black hole.)

Take the wedding thing. Now, I've never planned a wedding myself (I was married in the chambers of the only unindicted judge in Philadelphia), but I've watched others plan them, and I know it can be a pretty grueling experience. But suppose *Bride's* magazine or some similar organization created a template for a wedding-service site that, like *www.weclomewagon.com*, could be licensed to individual communities? In addition to relevant articles and general advice supplied by *Bride's*, the site would allow caterers to post their menus and prices, local bands to offer audio clips and those famous Web pioneers—the florists—to do their flower-arrangement thing. You could schedule the church and the reception hall, even apply for a marriage license. And while you probably wouldn't want to e-mail your invitations, you could arrange to have your bridal registry available online (your old college roommate who lives across the country simply accesses the list—which is updated as gifts are claimed—makes her choice and performs the transaction on-site). You could, of course, do the same thing with births: Click here to sign up for Lamaze classes or here to buy organic baby food. And while you're at it, you can arrange for the sprout's Social Security number and maybe even change your withholding tax. For that kind of site, the bestselling *What to Expect When You're Expecting* books would provide the perfect brand identity.

If consumers could use the Web at the most stressful periods of their lives to perform dozens of tasks that would typically involve days of running around—well, who wouldn't?

Merchants and service organizations could either create their own sites and pay for a mention and a link, or they could pay the branding entity to build a presence for them. (Considering the heavy-duty interactivity involved, the latter solution is probably better. It means the presiding organization would have to develop a pretty sophisticated Internet technology skill set, but the payback in terms of visibility and a cut of the advertising revenue should make the investment worthwhile.) The ability to do things like change the address on your driver's license or apply for a marriage license over the Web would obviously require the participation of state and local governments. But public agencies are already starting to move in that direction: In South Dakota, for example, residents can apply for hunting permits over the Net. And as for the U.S. Postal Service, its interest in exploiting the Internet and other interactive technologies has been well-publicized.

There is another obvious candidate for this genre of Web service—which, by the way, I call "Sites of Passage." That, of course, is death. In my first job out of college, I worked on a small weekly paper where I was responsible for, among other things, the obituary section. One day, a man called me to submit information on the passing of his wife of more than 30 years. When I asked him the date of death, he replied, "Ten minutes ago. I called you because I just couldn't think what to do."

The Web could have told him. WM

Leigh Buchanan is executive editor of WebMaster *magazine. She can be reached at* buchanan@cio.com.

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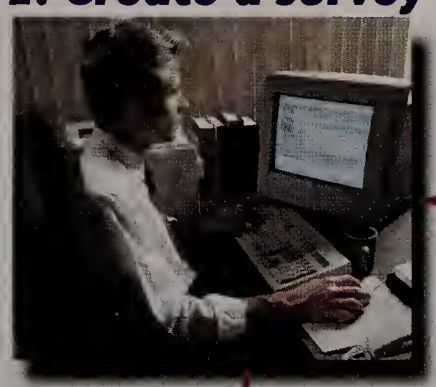

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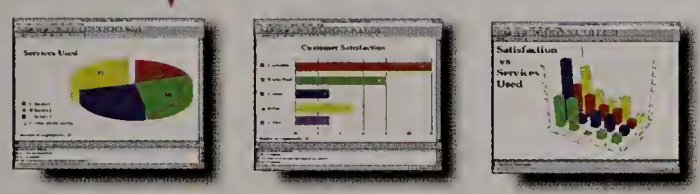

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The Internet can be an unparalleled source of information about people. It's

Getting the goods on the competition just got a whole lot easier

BY ANNE STUART

mes, published papers or speeches and articles written about them, as well as links to other companies, associations, universities or even individuals with whom they're affiliated.

ssible to assemble a detailed biography of many VIPs from their personal and corporate home pages, which may include photos, their complete

Click & Dagger

Competitive intelligence has been around almost as long as capitalism itself. It's a safe bet that whenever the world's second company opened, the proprietor of the first was surreptitiously checking out what the new kid on the block was selling and who was buying it.

But while the phrase now conjures up images of miniature cameras, purloined formulas and corporate moles in trenchcoats, practitioners say it's really nothing more sinister than keeping your eye on the other guy—secretly, but ethically, legally and effectively. And these days, thanks to the profusion of business resources on the Internet, competitive intelligence is far more likely to involve mouse and keyboard than cloak and dagger.

In the past, gathering intelligence often involved lots of legwork and reams of paper. Today, researchers can assemble astonishing quantities of information about customers, potential customers and competitors without leaving their PCs. And their efforts don't involve hacking through anybody's firewall, either. Indeed, much of the valuable information has been freely, even eagerly, published on the World Wide Web by the search targets themselves.

The rest, though scattered all over the Internet, is readily available to those who know where to look for it and how to interpret it. "It's good old-fashioned research with good new-fashioned tools," says Carol L. Ginsburg, a vice president at Bankers Trust Co., who oversees her company's global information centers.

PHOTOGRAPHY BY JOHN SOARES

Snooping Etiquette

When it comes to competitive intelligence, researchers walk a fine line between safe and sleazy. What constitutes fair play in doing the job online? Leonard M. Fuld, author of *The New Competitor Intelligence* (John Wiley & Sons Inc., 1995), offers these tips for keeping it legal and ethical:

❶ Know and observe your company's legal restrictions. Because of confidentiality clauses in contracts, a manager at an aerospace company may have to seek top-level permission to send e-mail to suppliers or potential customers. A food broker probably doesn't need such clearance.

❷ Avoid misrepresentation. While it's OK to visit someone else's site from an Internet provider that disguises your identity, you should always identify yourself by name and organization when sending e-mail or posting messages in public groups. And if you tell sources you're collecting material for one purpose, don't use it for another.

❸ Don't release misinformation in hopes of throwing your competitors off track. Once released, lies tend to spread, multiply and mutate, causing more harm than they prevent. And there's always the danger that they'll be traced back to the source, damaging your credibility.

❹ Never exchange price information with competitors. The practice may violate antitrust laws, and, of course, e-mail leaves a trail.

❺ Don't steal trade secrets.

❻ Don't offer bribes. Again, e-mail makes such activities easier to trace and document.

❼ Even if you think you've found a foolproof way, don't hack into others' intranets.

❽ Protect your human sources. Don't forward messages if, by mutual agreement or understanding, you promised to keep correspondence private. And don't unnecessarily jeopardize reputations or jobs. Avoid using names, titles or locations of anyone connected with your research. People may be penalized for contributing seemingly insignificant or even indirect information. Instead, identify sources by general job function.

–A. Stuart

Regular site stumble over

The hottest new tool, of course, is the Web, with its easy access, unlimited data-storage capacity and ability to quickly connect to far-flung resources. The Web has shown phenomenal growth, from a handful of sites a few years ago to something like 200,000 today. In fact, the Society of Competitive Intelligence Professionals credits that growth with helping to double its membership over the same period as more executives have sought ways to exploit the technology's research potential.

In addition to scope, the Net has speed and immediacy going for it. Ginsburg recalls a bank executive who urgently needed an article about a particular company that had appeared that same day in a British newspaper. The article wasn't yet in any databases, but Ginsburg visited the publication's Web site and found she could download it for free. And there was a bonus: She found additional information on the company thanks to a hypertext link embedded in the online piece.

At the same time, the Internet is just one way to do the job—and not always the best way. Like food in an open-air market, information taken from the Internet may be stale, tainted or of questionable origin. And by themselves those huge piles of data are worthless. It takes knowledgeable people to pick through them, pulling out the best ingredients and blending them in new ways. As Leonard Fuld, founder of business intelligence company Fuld & Co. and author of *The New Competitor Intelligence* (John Wiley & Sons Inc., 1995), puts it, "Intelligence is precious. It takes a lot of thinking power to get to it."

Finally, there's the matter of counterintelligence: If you're looking surreptitiously at your competitors, don't be surprised if you catch them peeking back at you.

In the tell-all, show-all culture of the Internet, many organizations throw far more information onto their Web sites than they ever publicly released in other formats—information that's of interest to foes as well as friends. Thus, competitive intelligence typically begins by regularly monitoring the other guy's Web site (preferably via an Internet account that doesn't give away the user's personal or corporate identity, which can be gleaned from the addresses that many sites automatically collect from incoming traffic). At the very least, vigilant visitation can keep the company up to date on personnel changes, product announcements, expansions and other news.

visitors occasionally riches hidden in plain sight.

Even better, regular visitors occasionally stumble over riches hidden in plain sight. Benn R. Konsynski, an Emory University business professor who teaches executives how to profitably scan the Net, describes a company whose intelligence team visited a competitor's site and spotted a preview of a promotion to be unveiled at a trade show a few weeks later. The company completely revamped its own exhibit and pricing in time to beat its competition at the show.

Intelligence can mean monitoring your partners and customers as well as your competitors. In response to fierce competition in the telecommunications industry, BellSouth Corp.'s Leadership Institute recently launched a market dynamics program that teaches its executives to use the Internet to study up on their own customers before calling them. "You can turn to [a customer's] Web page and see what they're providing, so you can have an intelligent conversation about solutions," says institute director Val Markos.

But true intelligence goes far beyond just sifting through Web pages. And even with a lot of digging elsewhere, the Internet's corporate miners rarely hit pay dirt. Rather, they find hints and fragments that may lead to eventual reward. Konsynski describes it this way: "You're looking for weak signals that, when amplified, give us a sense of direction. You're not just fishing around; you're looking for indicators of a strategy." For example, Fuld's staff once spotted a high-technology company's ad for software engineers–obviously an indicator of expansion—in a Usenet newsgroup. But that particular company had historically concentrated on hardware, so the software jobs ad signaled a more subtle, but ultimately more important, pending shift in corporate direction.

In addition to Usenet and a company's own site, other places on the Web offer valuable information about specific organizations. Government sites, for example, may yield surprising riches. Utilities must file many business-related documents with regulatory agencies, and patent applications and financial filings with the Securities and Exchange Commission provide plenty of pointers about companies' big-picture plans. If filed electronically, these public documents are easily retrievable online. "It allows you a very quick way to get an overview that was never intended by the publisher of the information," Fuld says.

Although there's plenty of great information to be had on such sites, information from a human source is often better. Even if the Internet can't directly answer researchers' questions, it can quickly lead them to people who can. "The Internet provides access to the world's experts in a very cost-effective way," says Jean Graef, founder of the Montague Institute for information technology and management. Graef, who teaches workshops on using the Web for competitive intelligence, has tracked down elusive authors and identified expert speakers through electronic mailing lists, Usenet news groups and other sources.

The Internet can also be an unparalleled source of information about people. It's possible to assemble a detailed biography of many VIPs from their personal and corporate home pages, which may include photos, their complete resumes, published papers or speeches and articles written about them, as well as links to other companies, associations, universities or even individuals with whom they're affiliated.

Doing that kind of homework can work magic. J. Brooke Aker, director of market information technology for The Futures Group, a business intelligence consultancy, tells the story of two CEOs from competing pharmaceutical manufacturers who met to discuss merging their companies. They didn't know each other, so one CEO's intelligence staff

FINDING IT ONLINE

Many of these sites contain multiple links to competitive intelligence resources

Babson College Library
www.babson.edu/navigator

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www.bankerstrust.com

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www.bellsouth.com

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www.bbn.com

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www.dejanews.com

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www.fuld.com

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www.tfg.com

Benn R. Konsynski
www.emory.edu/BUSINESS/BRK_home.html

Kirk Tyson International Ltd.
www.ktyson.com

Montague Institute
www.montague.com

Society of Competitive Intelligence Professionals
www.scip.org

SCIP Web Journal
www.montague.com/scip/scipweb.html

TASC Inc.
www.tasc.com/

Tympani Development Inc.
www.tympani.co

A SPYER'S GUIDE TO INTERNET TOOLS

Serious competitive intelligence requires the application of human skills, such as interpretation and creativity. But researchers can also choose from a variety of products that help automate the most labor-intensive parts of the process—collecting and organizing information. Here are a few examples:

IntelAssist, created by The Futures Group for its clients, is a suite of competitive intelligence applications for Lotus Notes. IntelAssist lets users break research into manageable chunks by identifying key topics and questions. Then IntelAssist obtains information from a variety of internal and external sources (for instance, searching a competitor's Web site daily for price changes) and returns the information into the Notes database. IntelAssist can also summarize key materials and rate them according to importance or reliability. And the Notes format lets dispersed users share, brainstorm about and collaborate on the accumulated information.

BBN's Personal Internet Newspaper, or PINpaper, and Tympani Development Inc.'s NetAttaché are among several products that continuously gather information from a variety of sources, creating customized reports. PINpaper, for instance, compiles a customized "electronic newspaper" of the latest information on preselected topics. If a user's profile indicates interest in network security products, help desks, soccer and chess, the PIN paper's "knowbots" will collect and assemble the latest information on those topics every four hours. ***–A. Stuart***

culled information about the other executive from the Internet, compiling a detailed personal profile. The CEO dropped the report in his briefcase without reading it. For the first three days of the meeting, he used his standard negotiating techniques, getting nowhere. Then he remembered the profile, pulled it out, reviewed it and realized that with this opponent, his standard strategy wouldn't work. On the fourth day, he returned to the table using a new approach tailored to what he'd learned about his opponent—and closed the deal almost immediately.

Recognizing the worthiness of the Net-as-intelligence-tool, librarians, researchers and webmasters are creating environments that help their companies' employees reach a wealth of internal and external information. At BBN Systems and Technologies, for example, librarians can respond to research requests by compiling customized home pages of URLs that let users point-and-click directly to relevant information sources. Recently, when a BBN employee needed some information about the Internet and cable television, library manager Robert Menk built a page of links to information such as statistics, published news accounts, press releases, Federal Communications Commission documents, a map of cable TV provider locations and information about interactive cable TV trials. BBN employees can do the research themselves after taking—in person or online—Menk's course on conducting business research from their desktops.

Unfortunately, for every diamond on the Internet, there's a ton of slag. It's not just that information may be irrelevant or inaccurate or incomplete—which it often is, particularly if it's second-hand. And it's not just that, in their rush to get online, organizations accidentally release mistake-riddled data, knowing that with HTML it's easy to correct later. It's also that, despite the Internet's reputation for being up-to-the-nanosecond, information is often too outdated for companies for whom million-dollar decisions pivot on the results of competitive intelligence.

"In our experience, there is still a lead time between the time [information] pops up in somebody's head and the time it appears online," says Terry Murtaugh, marketing director and researcher with the Kirk Tyson International Ltd. competitive business intelligence consultancy. For that reason, Murtaugh and other researchers say they depend primarily on personal interviews with people close to the subject under scrutiny: employees, suppliers, contractors, competitors or trade-journal editors, all of whom are much more likely to have near-real-time information. And, Murtaugh adds, even someone with an ax to grind can provide insider tips you'd never find online.

Murtaugh and others say the Web is primarily useful for checking or confirming facts and for pointing the way to better sources of information: electronic, paper and human. "The ultimate goal is not to find that Holy Grail of information online," says Roland Schumann, project manager in TASC Inc.'s business intelligence division. "You're looking to find a contact who can put you in touch with the Holy Grail." And even then, each contact will probably provide only one piece of the puzzle, which researchers must then interpret and try to fit together with all the other pieces.

Researchers say they typically find people not only through standard sources, such as online publications or archives, but also in electronic mailing lists and in Usenet newsgroups. To locate people who work at Atlantic Richfield Co., for instance, Schumann might search directories of electronic mailing lists, subscribe to one for utility executives, request the subscription roster (typically available automatically upon request from the mailing list's server), then scan for e-mail addresses at *arco.com*.

Because they're so highly specialized, Usenet discussion groups also provide names and e-mail addresses of people who are presumably knowledgeable about, or at least interested in, a particular topic. And if you're doing the kind of personality research described earlier, they can offer some

ticated, they know enough to make their forays in

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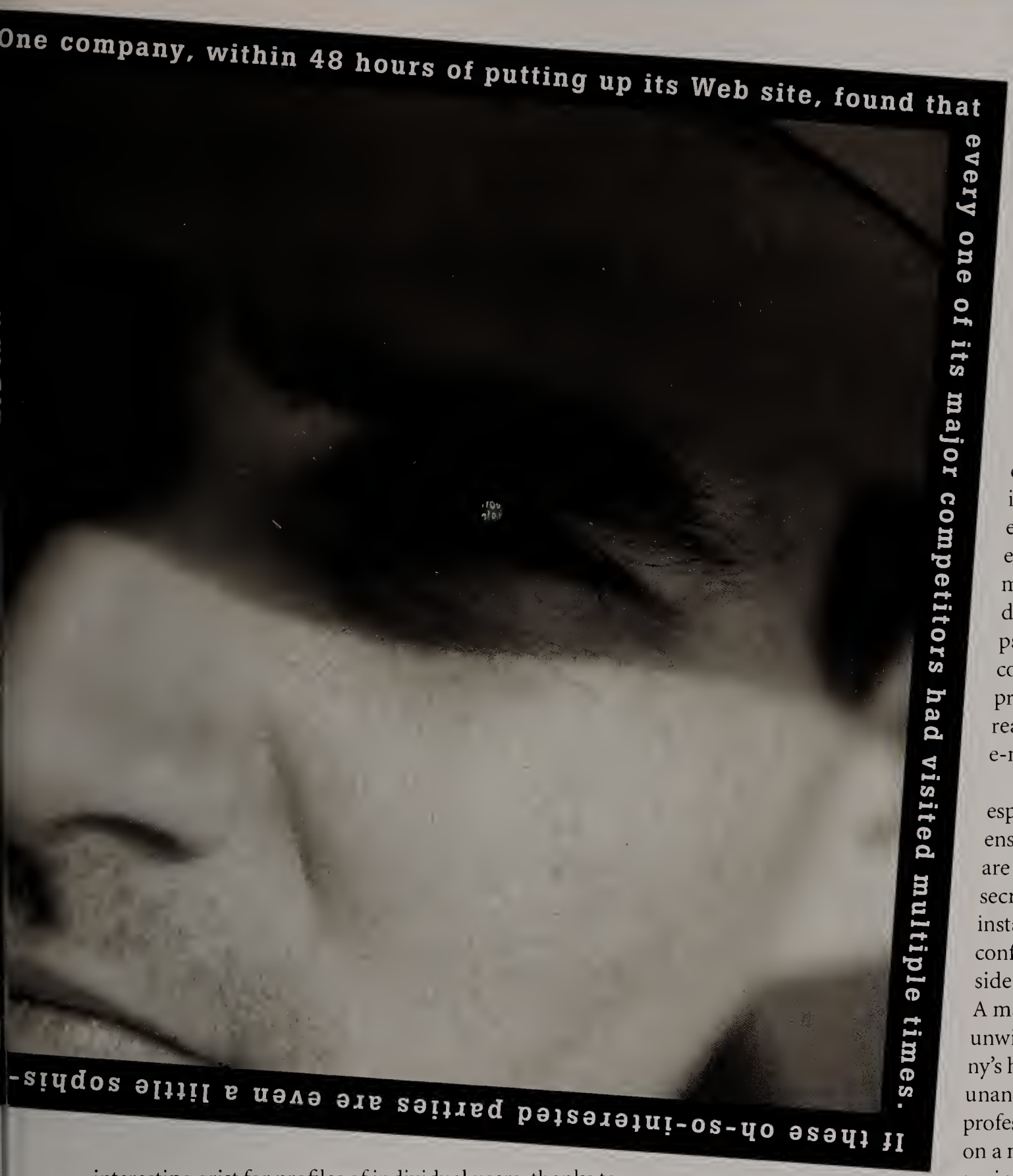

One company, within 48 hours of putting up its Web site, found that every one of its major competitors had visited multiple times.

If these oh-so-interested parties are even a little sophis-

interesting grist for profiles of individual users, thanks to Deja News Research Service Inc., a relatively new search tool. Deja News lets researchers search newsgroups by e-mail addresses, allowing them to determine not only that *barneyj@bigco.com* reads *biz.retail.marketing*, *rec.sports.soccer* and *alt.sex.footfetish*, but also to recover everything barneyj contributed to all those discussions—and to any other Usenet groups—over a specified time period. That, of course, reveals far more about barneyj than barneyj probably ever intended or expected.

Usenet groups are public, so there's nothing illegal, or—in many researchers' views—unethical about collecting such data (see related story, Page 40). But the fact that you can do so does point out the potential for counterintelligence and the consequent need to be careful about how much information you or your employees release—on purpose or unwittingly—about yourselves or your company.

At the very least, you can expect your competitors to be among your site's earliest and most faithful visitors, a fact that your auditing software will confirm. "One company, within 48 hours of putting up its Web site, found that every one of its major competitors had visited multiple times," Konsynski says. Of course, if these oh-so-interested parties are even a little sophisticated, they know enough to make their forays in disguise by using a pseudonym and a commercial Internet provider rather than their real names and corporate e-mail accounts.

With that in mind, it is especially important to ensure that your employees are not leaking your secrets. "It is possible, for instance, to e-mail a confidential document outside a company," Graef says. A marketing person might unwittingly tip the company's hand by discussing an unannounced project in a professional Usenet group or on a mailing list. Or an engineer might reveal IT strategy by mentioning on his personal home page that he's developing a new technology for a certain purpose at work. For that reason, some companies have begun developing policies recommending, in the strongest possible terms, subjects that employees should avoid on personal home pages and in online communities.

Above all, using the Web effectively for competitive intelligence requires a coordinated, systematic approach rather than stabbing in the dark. "Be clear about what you're trying to achieve. Intelligence is as much about what not to collect as what to collect," says Aker of The Futures Group. And go for quality over quantity, he adds: "The bulk of the effort ought to be on the analysis, not on the collection, on making use of what you have as opposed to collecting more of it." WM

Senior Editor Anne Stuart can be reached via e-mail at astuart@cio.com.

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From the West Virginia hills, it's a long drive to big-city shopping centers. So when Lisa Selmon of Morgantown, W.Va., wants to buy a book or software or any of a number of other products, she turns to the Web. She decides ahead of time what she wants and then goes online to find it, price it and—yes—to actually buy it. "It's great," says Selmon. "You can do it any time of the day. It's always there. The prices are easy to compare." And the clincher? "They deliver."

A couple of years ago, everyone thought happy Web shoppers like Selmon would abound by 1996. They don't. In fact, shopping is the least popular activity on the Web, according to a recent survey conducted by the Georgia Institute of Technology. In the "WWW User Survey" of more than 23,000 Web users, shopping trailed entertainment and work/research by a wide margin. (See story, Page 50.) The reasons: concerns about security, limited selection, slow Net connections and unfamiliarity with the medium. "Shopping is an embedded cultural experience," says Jim Pitkow, a doctoral candidate at Georgia Institute of Technology's Graphics, Visualization and Usability (GVU) Center and co-author of the biannual survey. "Transitions to new modes of interaction take time."

Recent signs suggest that time is approaching. Finance and technology leaders are uniting to develop secure

PHOTO BY JOANNE SCHMALTZ/PHOTONICA

www.web-master.com/

payment standards; telcos and cable TV providers are closer to solving access issues; name-brand retailers are becoming more numerous, more adventurous and more experienced; and an increasingly diverse population is going online and getting comfortable with the Web environment.

These developments have created a resurgence of enthusiasm for online shopping. Forrester Research Inc. predicts that consumer cybersales will grow to $6.9 billion by the year 2000, a thirteenfold increase over estimated 1996 sales. That's still only a sliver of the roughly $2 trillion spent each year in retail transactions, but it's enough to convince some retailers of the Net's potential as a channel for goods other than flowers, CDs and software. In response, they're beginning to paint those "grand opening" banners for the cybercustomers they hope will come flocking to their sites. "[If you wait too long], it would be tantamount to trying to safely jump onto a fast-moving train," says Phil Oschmann, director of database and research for catalog company Spiegel Inc.

A Cure for Payment Sickness

The recent upsurge in interest is due largely to new remedies that alleviate shoppers' queasiness over digital payments. Thanks to front-page coverage of security breaches, the popular perception remains that transacting business over the Net is as foolish as telling Kevin Mitnick your mother's maiden

PHOTO BY H.SHINDO/PHOTONICA

INCREASINGLY, WEB SHOPPERS ARE OFFERING THEIR CREDIT CARD NUMBERS ONLINE

Last year, there were too many obstacles for online retailers. That was then, this is now.

BY LYNDA RADOSEVICH

name. But many experts agree that the underlying technology for safe transactions on the Web exists today, with commerce servers from companies such as Netscape Communications Corp. and Open Market Inc. offering secure channels and strong encryption. And for a small group of people, that critical comfort level is apparently already there: Several retailers report that the majority of their Web shoppers provide their credit card numbers online.

Visa International Inc. and MasterCard International Inc. took a big step toward dispelling consumer fear in February when they publicized a proposal to limit customers' liability for bogus online charges. The guarantee itself isn't new—U.S. law states that credit card holders are liable for only $50 of properly reported fraudulent charges, online or offline—but shoppers generally aren't aware of it, according to Dorea Smith, director of communications for MasterCard International.

The companies also set aside their differences long enough to support a single technical standard for safeguarding card payments made over public networks. The Secure Electronic Transaction (SET) protocol specifies standards for very powerful encryption and digital certificates used to verify that the actual cardholder is making the purchase and that the merchant on the other end isn't a spoof. (You can download the spec from *www.visa.com* or *www.mastercard.com*.)

David Weisman, an analyst with Forrester, says some issues surrounding SET remain unresolved, such as who will issue the certificates. However, he predicts that those kinks will be ironed out and the standard in use by late this year or early next year. At that point, MasterCard and Visa plan to launch separate consumer education efforts in conjunction with the issuing banks. Having the familiar financial players united and on board will go a long way toward comforting worried shoppers, Weisman says.

The underlying technology for safe transactions on the Web exists today.

At the same time, emerging payment mechanisms may spark offerings not conducive to traditional credit card transactions. For example, CyberCash Inc., which provides secure financial transactions over the Internet, is working on so-called "digital coins"—essentially microdebit transactions against a special escrow bank account. Using digital coins, shoppers could pay small amounts for things on the Internet, creating new opportunities for companies selling, for example, 25 cents' worth of information, says Magdalena Yesil, co-founder and vice president of marketing and technology industries for the company. Another commercial prospect is online video games. CyberCash is working with entertainment software company Rocket Science Games to build virtual arcades. "Instead of your 12-year-old going down the street to an arcade, the child will be able to play computer games on the Internet paying, say, 50 cents for half an hour of play," Yesil says.

CyberCash is not alone in its quest to support electronic payments. The increasingly crowded market includes such players as Netscape, Open Market, CheckFree Corp., DigiCash Inc., First Virtual Holdings Inc., The NetBill project at Carnegie Mellon University's Information Networking Institute and VeriFone Inc., all of which are partnering with retailers and banks to create secure digital payment options. Still, old habits die hard. Experts believe that credit card payments—which already are familiar to users—will fare best in Internet retailing.

The Getting Gets Easier

Another bright spot is that cheaper, easier Internet access is boosting the number and variety of users online. AT&T Corp. has received 500,000 requests for starter disks since March, when it launched WorldNet, a service that gives its long-distance customers five free hours of Internet access per month. Cheaper access has a twofold effect: It eliminates the ticking-clock syndrome that drives many users offline after they check their e-mail, and it should broaden the Net's reach beyond those fabled upscale, male thirty-somethings it initially attracted. (Evidence of that broadening already exists: A survey by SRI International Inc. found that the proportion of women on the Web rose from 27 percent in February 1995 to nearly 40 percent by October 1995.)

Lower prices address only half of the consumer access problem. Anyone who's tried to log on to a Web shopping mall with a modem knows the frustra-

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CyberCash Inc.
www.cybercash.com

Forrester Research Inc.
www.forrester.com

J.C. Penney Co. Inc.
www.jcpenney.com

Lands' End Inc.
www.landsend.com

MasterCard International Inc.
www.mastercard.com

Peapod Delivery Systems
www.peapod.com

Spiegel Inc.
www.spiegel.com

Visa International Inc.
www.visa.com

Wal-Mart Stores Inc.
www.wal-mart.com

THE NERD INSTINCT

In The Dilbert Zone, pocketbooks meet pocket protectors

Everyone agrees you need compelling content on your site to draw cybershoppers. For a sense of what's compelling, visit The Dilbert Zone (*www.unitedmedia.com/comics/dilbert/*), a theme shopping and entertainment site based on the nerdy engineer comic-strip character.

The Zone attracts fans with such sustainable content as a daily cartoon, archives of recent strips, a quiz and interviews with Dilbert creator Scott Adams. But it's also a retail site set up to sell products based on that content. "People do buy lots of Dilbert merchandise online," Adams says. Enough to make him rich? "Rich is kinda relative," he answers cagily.

Jonathan Shapiro, vice president of corporate development, heads the Web team at United Media, the media conglomerate that manages The Dilbert Zone and other cartoon-based Web sites. He won't say exactly how much money people have spent on Dilbert merchandise since it first went online in October 1995. But he will say that the store has received thousands of orders and that proceeds from advertising and merchandising between October and March were in the neighborhood of $250,000. That's a pretty nice neighborhood.

As a shopping site, The Dilbert Zone has some built-in advantages. Dilbert fans tend to be Web-literate and work in offices with broadband connections to the Internet, Shapiro says.

But the site has more than demographics going for it. For one thing, it's fun. People can read a comic, test their Dilbert quotient, buy a book and get back to work before the boss notices they've been goofing off. And the site offers something unique. If you want a tie that flips up at the end like Dilbert's, you have to buy it online: Much of the stuff sold in The Dilbert Zone is not available anywhere else. "If all The Dilbert Zone did was sell merchandise that you could get around the corner, we'd be hard-pressed to get people to wait the couple of days and pay for shipping costs," Shapiro says.

–L. Radosevich

RETAILERS HOPE TO SEE INCREASED ACCESSES—AND MAYBE PURCHASES

tion of waiting endless minutes for graphics to load. In the Georgia Tech survey, 69 percent of the respondents cited speed, or lack thereof, as their biggest beef with the Web.

But there's hope: While telephone modem speeds pretty much top out at 28.8 bits per second (bps), cable TV suppliers are launching trials to link PCs to the Internet via cable modems and cable TV channels. Theoretically, cable TV Internet access could run roughly 350 times faster than a 28,800-bps modem connection.

Perhaps the best-known cable Internet effort is @Home Network, a joint venture between cable TV giant Tele-Communications Inc. (TCI) and venture capital firm Kleiner Perkins Caufield & Byers. @Home and TCI are rolling out cable Internet service to homes in the Sunnyvale, Calif., area, charging $35 to $45 per month. Officials from the two firms declined to say how many subscribers they expect to sign up, but just the thought of wider Internet pipes delights some retailers.

"A more responsive system is definitely going to make customers happier," says Marisha Konkowski, electronic retailing manager for J.C. Penney Co. Inc. "So I expect to see increased accesses as well as, hopefully, increased purchases." Once the bandwidth gets better, J.C. Penney will be more likely to incorporate new technologies—such as Java, Shockwave and virtual reality modeling language—that will create a more exciting environment, she says.

PHOTO BY CHRIS WEIL/PHTONICA

THEY ALSO SURF

Georgia Tech's user survey shows who's doing what

The number of women on the Web is up, but the amount of household income of Web users is down. So sayeth the fourth biannual W[illegible] profile compiled by the Georgia Institute of Technology. More than 23,000 surfers [illegible] the Graphics, Visualization and Usability Center's "WWW User Survey" (available in fu[illegible] *h.edu/gvu /user_surveys*) between Oct. 10 and Nov. 10, 1995. (A new s[illegible] available online in Jun[illegible] Here are some of the results:

➢ The average age of respondents in the fourth survey was 32.7 years old, down two years from the third survey.

➢ In the United States, 32.5 percent of respondents were female and 67.5 percent male, up 15 percent for women and down 12 percent for men from the previous survey.

➢ Web users' estimated average U.S. income is $64,700, down from the previously reported $67,600.

➢ There was no significant difference between the percentage of married Web users (41.7 percent) and the percentage of single users (40.8 percent).

➢ The survey found that 30.9 percent of the respondents are involved in education; 29.1 percent are in computer-related occupations; 19.9 percent are in professional jobs; 10.2 percent are in management; and the remaining 9.8 percent are in "other" occupations.

➢ The most common u[illegible] the Web is for browsing [illegible] percent), followed by e[illegible] tainment (63.6 percent) and work (51.8 percent). On the low end of the scale were shopping (11.1 percent) and "other uses" (10.8 percent).

–L. Radosevich

PRODUCTS THAT MUST BE BOUGHT REPEATEDLY SHOULD FARE WELL ON THE WEB

Still, cable Internet access isn't a sure thing. Customers will need an Ethernet adapter to connect to the service, and while those devices commonly cost less than $100 apiece, most consumers aren't familiar with them. In addition, users will need a cable modem, expected to go for about $400, and history suggests that such costs could deter widespread acceptance. Another high-speed access mechanism, integrated services digital network (ISDN), has failed to take off at roughly $30 to $60 per month for a line and $350 for a modem. "They'll shoot it between the eyes and kill it if they make it work but then not price it attractively," says Oschmann.

Where the Stores Are

Once users are online, they need a compelling reason to spend money there, and nothing draws shoppers like big-name retailers. So when the nation's largest retailer, Wal-Mart Stores Inc., announced in January that it would begin an online shopping service trial with Microsoft Corp., observers took heart. For one thing, it signaled that the Web's appeal is broadening: The giant merchant's customer profile doesn't jibe with the Internet's traditional demographics. And, to a certain extent, the venture validated the notion of selling regular stuff—items other than information and software—online.

A Wal-Mart spokesperson, declining to provide specifics, says that CEO

PHOTO BY SUSIE CUSHNER/GRAPHISTOCK

David Glass expects the Internet venture to eventually produce a "significant portion" of the $94 billion company's revenues. Nor would the retailer disclose what types of products would be offered online, saying only that they would differ from the company's in-store merchandise. But consultants close to the project anticipate that the site will offer goods and services that require a fair amount of customer input and customization. One example cited is wallpaper: Customers could browse through various designs and place digital wallpaper in virtual rooms to get the full effect. (The trial was expected to begin in spring but had not launched at press time.)

While Wal-Mart and others are just getting started, relative pioneers such as catalogers J.C. Penney, Spiegel and Lands' End Inc. have been online for more than a year, learning valuable lessons about viable business models. For instance, all three run their own Web sites to retain maximum control rather than, or in addition to, joining a virtual mall or collection of electronic storefronts. "We wanted to be consistent with the Lands' End feel that customers get in the catalog," says Diane Solberg, an electronic media merchant for Lands' End. "In a lot of malls, [all tenants share] the same format and same structure in stores and navigation."

Spiegel and Lands' End found, to their surprise, that their Web sites draw the same customers as their catalogs. More married people and women shop at their sites than the youngish men who are purported to be the Web's primary denizens. "It's more for existing customers who find it convenient to find us through this channel, as opposed to attracting a completely foreign profile," says Spiegel's Oschmann. Meanwhile, J.C. Penney, with its wider range of offerings, is trying to use the Web to extend its appeal to a younger, male audience, which might now think of the retailer as somewhat less than hip.

But just because such stores are on the Web doesn't mean they have to be of the Web. Rather than skewing their images and offerings to the types of people they presume to be online, those retailers find it's better to stick to their core competencies. "We don't want to redefine our company to equate to the Web audience, because then we have the issue of getting fuzzy about our identity," says Oschmann.

One thing these retailers must do differently, however, is offer extra services on their Web sites to keep customers coming—and coming back. J.C. Penney, for example, lets site visitors complete online bridal registries that others can access. Lands' End, meanwhile, offers tips about how to choose the most flattering swimsuits. "You must add value to make it worth the customer's time," says Solberg.

Using digital coins, shoppers could pay small amounts for things on the Internet.

Future Stock

Peering into their liquid crystal display balls, retailers and pundits see the emergence of a few key cybershopping trends:

➢ What's selling today and should continue to sell well are name-brand consumer products, CDs and, of course, digitized items such as information and software. Products that must be purchased repeatedly, such as groceries, will also fare well among the perpetually busy.

➢ Web retailers will continue to increase the value of services that are unique to their Web sites. Peapod Delivery Systems, for example, an online grocery service that can be accessed over the Web, already lets customers in the Chicago and San Francisco Bay areas comparison-shop using their own search parameters: price; nutritional content; number of calories; levels of fat, sodium and sugar; and even whether items are Kosher. The service also provides extras like recipes and cooking tips. "It's not a 'future' thing for us," says Derrick Q. Milligan, Peapod's marketing development manager.

➢ Retailers will increasingly apply the lessons of mass customization and one-to-one marketing on their sites. Some sites already use smart agents that automatically fill customers' orders every week and Web pages that are generated on the fly to reflect customers' personal preferences (see "Easy Doesn't It," *WebMaster*, March/April 1996). "If you're selling music, and you know a customer has in the past bought melodious rock by female artists, the next time that customer checks into your store, you might tell him about a new CD and offer to play a cut," says Ted Grossman, a retail consultant and professor of information systems/accounting at Babson College in Wellesley, Mass.

Despite all these advances, Web shopping still must be easier and more efficient than conventional channels before consumers actually use it. And while that might be the case if you live in rural West Virginia, most people are still more comfortable trotting over to the mall or picking up a phone. "I can order just about anything in three to five minutes via phone. It's just not that easy to do via the Internet these days," says Georgia Institute of Technology's Pitkow. "Ultimately, people will take the path of least resistance, [and] the Internet has a ways to go before it becomes such." WM

Freelance writer Lynda Radosevich can be reached at lradosev@interserv.com.

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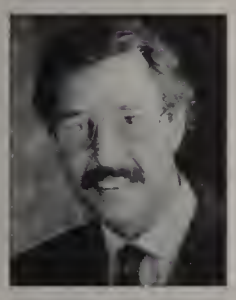

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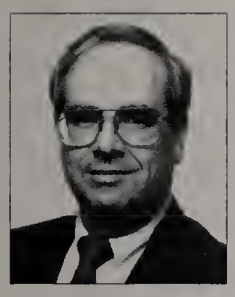

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Surf

Power users, new users, the folks from IT. Everyone wants something from Amoco's intranet. And they all want something different.

BY CAROL HILDEBRAND

"Now the intranet is almost mainstream, and it's a different kind of struggle."
–Bill Bryant

PHOTO BY ROCKY KNETEN

Turf

Joe Focone felt like someone with the wind at his back and a wall in his face. When, he asked midway through his presentation to Amoco Corp.'s intranet working group, could he expect to see guidelines for Web page authoring tools?

"I've got to give people tools they can use today," said Focone, a senior staff geologist at the petroleum company's exploration division. "People want to create content on the Web now, and they want to do it on their own."

James R. Alison, product manager for electronic communications in the information systems group, fielded the question but returned it unanswered.

"We've submitted an information query and response on tools to the Standards Council," Alison said. "We need to connect you up to that process."

"How about a deadline?" Focone pressed. "Will they just do it when they feel like it?"

Battles like these, in this case positing user needs against management mandates, are common when representatives of various corporate divisions try to hammer out an intranet strategy that will serve all equally well. At the quarterly meeting of Amoco's World Wide Web Working Group (W3WG) last April in Houston, major business groups hashed out problems ranging from funding to technical standards to ways to improve credibility.

Lately, intranet growth has shown the acceleration capability of a high-end sports car—it can go from zero to sixty in seconds. In the last year and a half, Amoco's intranet has mushroomed from nothing to 30 to 40 servers and 11,000 documents. Bill Bryant, a senior systems consultant at Information Technology Shared Services

(ITSS), Amoco's IT group, and leader of the W3WG, says he expects more exponential growth as Netscape becomes available to more of Amoco's 43,000 employees. Of the 25,000 employees with PCs, he estimates, about 12,000 can access the intranet. The rest should have access within 12 months.

As internal Web environments such as Amoco's make the transition from grassroots movements to mainstream monuments, they must balance the needs of their constituents. Amoco's intranet growth, for example, has resulted in a complex cast of characters with conflicting demands (see box). "A year ago," says Bryant, "we were fighting just to be recognized as a legitimate tool. Now it's almost mainstream, and it's a different kind of struggle."

At Amoco, the first applications to go up on the intranet were things like an expanded company organization chart that provides basic address/phone number information as well as links to each person's area of expertise and to his or her boss and direct reports. Since then, different functional groups have put up home pages containing information such as internal policies for oil field work and technical support questions and answers. In addition, some workgroups have begun offering Web access to databases, such as the exploration group's database of core samples. Amoco's intranet also provides limited links to external sites, including weather and traffic information for the Houston area.

The intranet initiative is now reorganizing the corporate home page to improve navigation (see related story, Page 58). Bryant says the group envisions the intranet as "the entry point to all electronic information within Amoco, wherever it may reside, as well as an extremely productive application development platform, especially for cross-platform or multiple database applications."

But like others at a similar stage of Web development, the folks at Amoco find themselves butting up against some tricky management issues. Most important, they must strike a balance between the flexibility of intranets, which users want to exploit immediately, and the maze of rules and standards that govern any large corporation. Some involved in the initiative worry that uncontrolled growth will lead to the dissemination of unreliable information. Others point out that too many controls will result in too little useful information. What's more, the W3WG must find ways to address those issues without any money of its own. There is little central corporate funding for IT projects, says Bryant, so intranet development approval is at the discretion of business unit executives.

"The W3WG doesn't 'own' anything, since it's a self-managed work team," says Bryant, who also heads the ITSS intranet initiative. "But it is the closest thing to an official sponsor organization we have. I use it as a sounding board and major input source on project direction."

"You've got to let people publish."
–Ronnie W. Powell

Dramatis Personae

Amoco's intranet may someday connect the company's 43,000 employees, but building it has divided the intranet team into contingents with distinct needs and wants:

- **Power Users started the initiative and want to move ahead with new technology and new projects.**
- **New Users are just getting acquainted with the intranet and want to move slowly, sticking with the software they know.**
- **Business Management is driven by cost-containment and reluctant to invest in new projects.**
- **The IT Group must uphold a strict technical standards process and wants to keep costs down.**

PHOTO BY ROCKY KNETEN

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BBN PLANET

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One thing Amoco's intranet project does not lack is input. The W3WG's April meeting attracted 58 attendees, nearly double the number at the previous meeting. Although the new participants came from all over the organization, many hailed from IT, specifically from the formal Internet Services group (dealing with both internal and external Net activities) recently established by ITSS. Not surprisingly, there was some circling-and-sniffing among the early enthusiasts from the business units, who had been driving the intranet's rise, and the IT newcomers, with their emphasis on technical standards and company-wide policies for managing the technology.

Amoco's intranet was born in the company's research department where, in 1994, employees were first introduced to Mosaic and its possibilities. Those are the people Alison refers to as "first wave" users, "self starters who went and downloaded Mosaic off the Net" and set up rudimentary internal home pages.

Then, a few months ago, a second wave of users—the people whom Alison calls the "content creators"—appeared. These are the business users who recognize the intranet's knowledge-sharing potential but lack an affinity for emerging technologies and don't want to invest either the time or the effort in learning new tools. "They don't want to crank out HTML code," says Alison. "They just want to take their Word documents, put them out there and let others take care of the technical details."

This divided user base presents a management challenge for W3WG. In one corner they've got Web newbies, hesitantly clicking around on the internal home page. These folks don't give a rodent's behind about acquiring the latest technology; they just want to be comfortable with the stuff they have. As such, recent intranet converts tend to be devotees of the status quo, as do business unit managers, who view upgrades as cost centers. Then there are the power users. They are people like the attendees from Focone's organization, the Worldwide Exploration Business Group (WEBG), and they are definitely part of the first wave. They want to create their own pages, now. They want to know which authoring tools are company standard, now. They really want Netscape Version 2.0—yesterday. In their view, technical foot-dragging reduces the competitive advantage they could be getting from advanced intranet functions, such as knowledge-sharing databases.

"Our people want to create Web and home pages for exploration teams, they want it to be low-cost and easy to do, and they want to do it on their own [rather than contract out to an internal support group]," says Focone. "We don't see guidelines, and we certainly don't see standards to help us."

Focone and other business users voice frustration with the rigorous standards process at Amoco, in which users submit a formal request to the central Standards Council, a cross-functional but IT-centric group. The trouble is, says Focone, the council can't keep up with rapidly changing

Home Beautiful Amoco's internal home page gets a face lift

It's one thing to strategize about getting Amoco employees on the intranet. Once they get there, however, what they find must be easy to use, or they won't return. So World Wide Web Working Group (W3WG) leader Bill Bryant asked Jim Genis, the designer responsible for Amoco's external site, to revamp the corporate internal home page.

Genis revealed the prototype page at a W3WG meeting in April, fielding suggestions and explaining the reasoning behind his design. First, he categorized content into several general groups, such as Amoco current news and business groups, with links to different line unit pages. "We wanted to make it easily accessible to people, even if they're technophobic," he says. "It's the newbies who need the help, and we don't want to lose them."

The new categories decluttered the page, and Genis then organized topics according to how much use they sustained. "We put the kind of information that everybody accesses right up top," he says. So, for example, one prominent icon leads to a real-time feed of Amoco's stock price. The page also features space for a photographic image that Genis wants to rotate to showcase various corporate activities.

In addition, much of the information is now cross-indexed, so users can arrive at the same place through several routes. For example, one could access information on Amoco's Worldwide Exploration Business Group by geography, by function or by business group.

The W3WG crowd made several suggestions to help Genis refine the prototype. One longtime user objected to the "dumbing down" of the page, saying, "This is good for beginners, but what about power users? Are you thinking of offering a more compressed version?" Another person suggested that Genis build a temporary link between the old and new pages to help ease the transition. And a number of people debated whether the icons were sufficiently representative of their purpose. On that issue, Genis argued that it's difficult to strike a balance between being informative and being succinct: The more specific each icon gets, the more overwrought the home page looks. "You can't give everybody front page headlines," he said.

–C. Hildebrand

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"Business funders don't want multiple versions; they want lower costs."
–James Alison

technology, and the backlog of requests impedes progress. "We've got Netscape on a quarterly delivery schedule for upgrades," he says. "We're using Version 1.1 now, and if we can't upgrade quickly, we'll very soon find ourselves driving a tired old vehicle."

But maintaining the balance between leaders and laggards is a difficult proposition with any technology upgrade. "Our strategy has been to move forward with upgrades only when major new functionality is available," says Alison. "We need to bring the laggards forward, and not, perhaps, always be on the bleeding edge on the other side of the equation."

For many users, however, the issue is bigger than slow standards-setting. It's about balancing users' freedom to make business information readily available with the stringent procedures many say are necessary to manage the burgeoning intranet.

Speaking out for freedom are people like Ronnie W. Powell, manager of the geographic information systems technical support group for WEBG. Powell wants to use Amoco's intranet to get information out to the company's exploration teams, which are scattered all over the world.

"We have to find several million barrels of oil this year," he says. "I'm not going to worry about what version of Netscape I'm using. I just want to get information out faster."

Powell's co-worker Edward de Alba agrees. A staff exploration analyst with WEBG, de Alba says that because Web technology is changing so quickly, applying the standards process to intranet tools is fruitless. Instead, he suggests, people should regard the technology as a stopgap measure. "We should expect to throw away these interim solutions in nine to 15 months," he says. Like Powell, de Alba says that the bottom line is to make sure that vital business information gets published quickly.

But under the current procedures, publishing information on the intranet can be punishingly slow, Powell says. Amoco's Web servers are maintained and controlled by webmasters, a position that the company considers technical and administrative rather than strategic. About half the webmasters report to various functions within ITSS, but the other half are IT

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Amoco must strike a balance between the flexibility of intranets, which users want to exploit immediately, and the maze of rules and standards that govern any large corporation.

professionals residing in the business groups. Prospective publishers need the webmaster's permission to write to a server, and the bottleneck that that step creates is preventing the timely posting of business information.

"You need to manage it somewhat," says Powell. "But you've got to let people publish. Once you make it easy to publish, I think it will really catch on. The possibilities are endless."

Powell also questions whether a technical administrator is the best judge of who should be putting up what information. He recently ran into trouble trying to link a page to the WEBG internal home page. "The webmaster tightly controlled the process; he even edited the description of the link to my page," Powell says. "It's my page. He shouldn't be managing content."

Alison acknowledges Powell's point, but he insists that ITSS favors creativity over micromanagement. "On our intranet, there's room for some anarchy. It helps people feel ownership and keeps creativity going," he says.

Bryant agrees, saying censorship of content is not an appropriate task for technical personnel. "ITSS doesn't control the content," he says. "We just provide the access."

But ITSS has other, equally compelling mandates. IT folks must still adhere to the budget, even if it means stifling the growth of the intranet and hence lessening its immediate business value. ITSS is on a 100 percent chargeback scheme, so if the business community wants something, it has to ante up. At the quarterly meeting, for example, W3WG members from the business side wanted to know how ITSS measured customer interest in various initiatives. "Get out your checkbook and open it up," answered Alison. "That's the best way to know it's really customer driven."

It also appears to be the only way to get funding for intranet projects. Netscape is part of the common desktop software package that is standard on Amoco's PCs, so access cost is rolled into the desktop charge that each business unit pays. (Not everybody has a PC, however. Some business units are still using a mainframe-based PROFS system for e-mail, and as a result are shut out of the loop completely. But Bryant says that even those people should be on the intranet in another 12 months.) Moreover, anybody who needs anything extra—such as software to create content, or help building an HTML front end to Word files—must pay. "All the members of the W3WG, many of whom are providing help to the initiative, cover their own costs," says Bryant.

This every-man-for-himself environment makes it difficult to present a unified advocacy for intranet funding, particularly when many technology funders, such as business unit management, favor the less costly technical status quo. "There's a certain tension in listening to the noisiest one or two percent of the community that want technological change, as opposed to the funders of business unit technology, who want stability," Alison says.

For example, while it makes sense to let power users upgrade to Netscape 2.0 while the rest of the company becomes acquainted with the earlier version, it costs more to support multiple versions of a technology. "Business funders don't want multiple versions; they want lower costs," says Alison. "We hear the [power users'] concerns, but there's no easy answer."

So proponents must get creative to come up with funding. The team working on the external Internet site (*www.amoco.com*) managed to snare money from two corporate sponsors, the communications and information technology departments, because they could sell it as a public-relations vehicle. Intranetters have a tougher job: They must persuade potential sponsors to provide funding on the basis of as-yet unrealized business benefits. One very tentative scheme being tossed around involves renting out space on the internal home page to various divisions, who could post photographic images touting some project, such as a North Sea drilling initiative.

W3WG members agree that it's exasperating to waste time on such mundane issues as funding while so many business advantages are going untapped. And while they are justifiably proud of their accomplishments, they realize they have only touched on what is possible. "We want more," says Powell. "We want people to put up project results. We want so much content up there that people will go to it for daily information." WM

Senior Writer Carol Hildebrand can be reached at cjh@cio.com.

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Page numbers refer to the first page of the article(s) in which the company is mentioned. This index is provided as a service to readers. The publisher does not assume any liability for errors or omissions.

Company Index

@Home Network 46
Amoco Corp. 54
Apertus Technologies Inc. 68
Atlantic Richfield Co. 38
AT&T Corp. 46
Bankers Trust Co. 38
BBN Systems & Technologies 38
BellSouth Corp. 38
Calvert Securities Corp. 18
Cargill Inc. 10
CheckFree Corp. 46
ClariNet Communications Corp. . . . 18
CyberCash Inc. 46
Deja News Research Service Inc. . . . 38
DigiCash Inc. 46
Digital Equipment Corp. 10
Dun & Bradstreet
Software Services Inc. 68
Ford Motor Co. 28
Forrester Research Inc. 10, 46
Freese-Notis Weather Service 10
Fuld & Co. 38
Futures Group, The 38
Gordon & Glickson PC 10
International Data Corp. 10
J.C. Penney Co. Inc. 46
Jumbo Inc. 10
Kirk Tyson International Ltd. 38
Kleiner Perkins Caufield & Byers . . . 46
Lands' End Inc. 46
MasterCard International Inc. 46
Meredith Corp. 10
Monster Board, The 10
NetCarta Corp. 10
Netscape Communications Corp. . . 46
New Enterprise Associates 18
Open Market Inc. 46
Peapod Delivery Systems 46
PenOp Inc. 68
Procter & Gamble Co. 10
PSI/VisiCorp 18
PSINet Ltd. 18
Quantum Corp. 10
Release Software Corp. 68
Restrac Inc. 10
SBT Internet Systems 68
Security First Network Bank FSB . . . 18
Soft Reality Inc. 10
Spiegel Inc. 46
SRI International Inc. 46
TASC Inc. 38
Tele-Communications Inc. 46
TMP Worldwide Inc. 10
Tripod Inc. 18
Tympani Development Inc. 38
United Media 46
VeriFone Inc. 46
Visa International Inc. 46
Wal-Mart Stores Inc. 46

Advertiser Index

Allen Systems Group 67
Apertus Technologies Inc. 9
Cabletron Systems Inc. 13
CerfNet 29
BBN Communications Corp. 57
Bluestone Inc. C3
CIO Communications
Inc. . . . 16A, 17, 20, 22, 52, 52A, 65
Computer Associates
International Inc. 27
Decisive Technologies 37
Digital Consulting Inc. 61
E-Data Corp. 33
Gradient Technologies Inc. 11
IBM Corp. 21, 23, 25
IDC 63
Ikonic Interactive Inc. 5
InfoAccess Inc. 15
Internet Commerce Expo 53
NetCarta Corp. C4
Netscape Communications Corp. 3
ParcPlace-Digitalk Inc. 34
Premenos Corp. 59
Spyglass Inc. 31
Sun Microsystems Inc. 44, C2
UUNet Technologies 7

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Continued from Page 68

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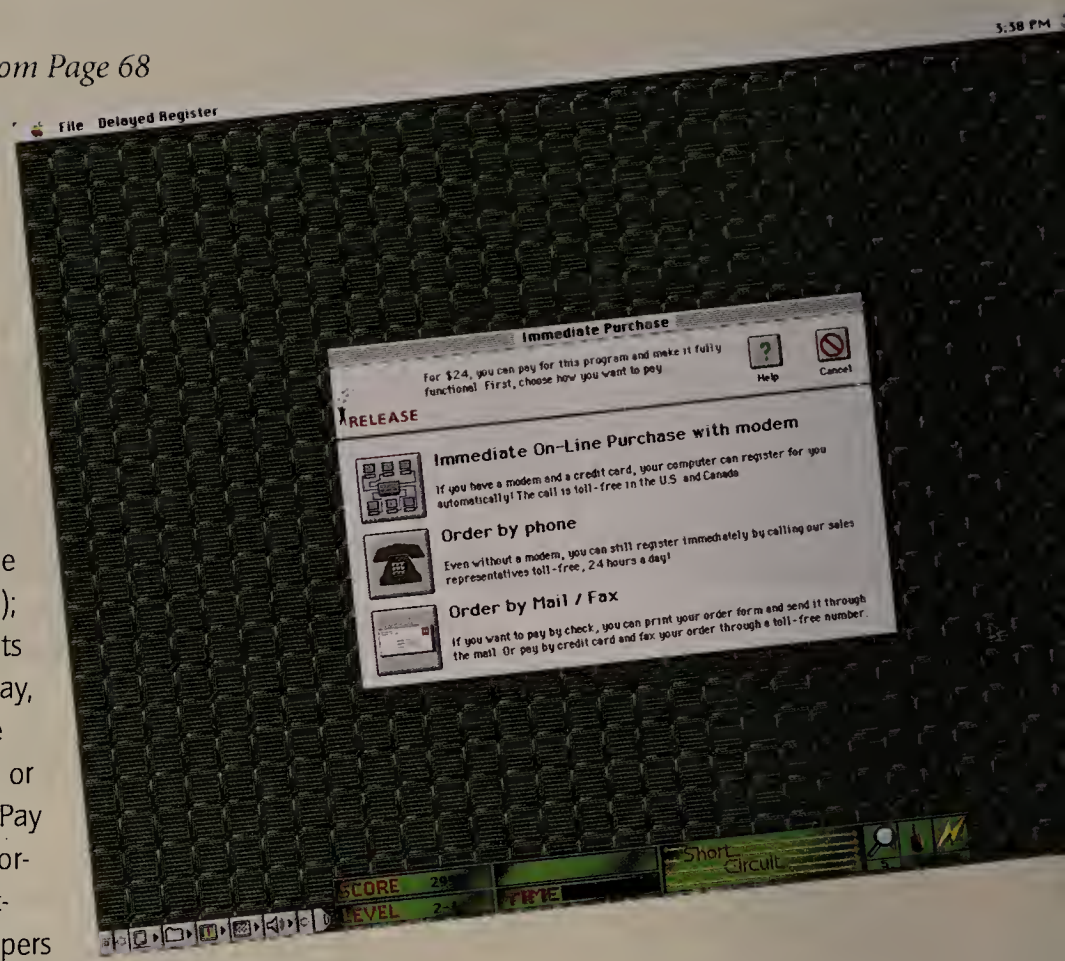
Over the years, salespeople have been ignored, reviled and banned from public places. And now, thanks to Release Software Corp., they are being embedded.

In a model the company calls "super distribution," Release's AutoPay lets software developers build electronic sales agents directly into their wares. Potential customers can then download those wares from the Net (or take them from a CD or disk); AutoPay ensures that the software times out or limits its functionality (a personal information manager, say, might let you enter 20 names and addresses before demanding payment). If the user decides to buy, he or she can complete the transaction through the AutoPay module without leaving the desktop; credit card information passes directly into Release's processing network, and the registration goes to the seller. Developers can arrange for AutoPay to unlock all the functionality at once or request separate payments for individual features.

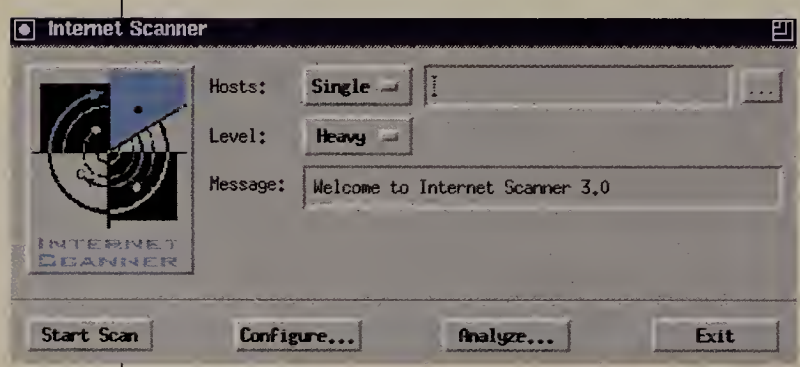


AutoPay also transforms piracy risks into new selling opportunities. Since the embedded agent goes everywhere the software goes, would-be copiers get only the square-one version and must pay for additional features. And the product can be used to sell aftermarket items; purchase orders are automatically sent to the fulfillment house. For information, call 415 833-0200 or do the Web thing at *www.releasesoft.com.*

The Hole Truth

Say what you will about the Web as a publishing medium: There are still some things you can do only on paper. The brochure for Internet Security Systems' Internet Scanner 3.2, for example, is riddled with holes—a nice touch that wouldn't play well onscreen.

Those holes represent the 120 known openings in a TCP/IP network, holes that "a hacker could be looking for...as you read this," warns the brochure. Internet Scanner keeps those baddies at bay by learning your network and then constantly patrolling it, checking every potential security hole in the course of its rounds. When it spots a problem, the product alerts you and interprets the situation, providing a diagnosis of the hole and instructions on how to fix it.



Because Internet Scanner works for all versions of Unix as well as Microsoft Corp.'s NT and Windows 95 systems, it can also be deployed across a corporate intranet. That's a good thing because, as Internet Security Systems reminds us, 70 percent of security breaches "come from attacks within." It's amazing we get any sleep at night.

You can talk to the company at 404 252-7270 or read about it at *iss.net.*

Instant Storefront

For those who want to be online yesterday, SBT Internet Systems has a suite of tools designed to get companies up and doing real business on the Web quickly. First among them is WebTrader 2.0 which captures sales orders, leads and product registration. WebTrader also enables site owners to do a wide variety of tasks such as authoring HTML pages, managing customer records and converting e-mail orders into bids.

Then there's WebTrader C/S, SBT's client/server version, which instantly updates text and graphics through a dynamic cataloging system. The product automatically sends customers e-mail confirmations of orders and shipments when used with the company's Web-Alert, a "business robot" that responds to user-defined business events. And if you're not interested in hosting a site yourself, SBT's WebStreet service includes up to 10MB of storage on one of its dedicated servers; 24-hour, high-speed access; and a choice of domains. For information, check out *www.sbt.com.* WM

www.web-master.com/

In the **first wave** they created *bits.*

In the SECOND WAVE they generated information.

In the NEXT WAVE we will share *knowledge.*

Everyone agrees: It's time we began using the Internet for more than browsing. It's time we unlocked the true potential of this global network of information and the potential for sharing knowledge — with each other, with our customers. It's time for WebGalaxy™ — a sixth generation Internet language that not only allows you to create Java™ applications from a completely user-friendly, GUI interface, but actually launches you into the next wave: knowledge sharing.

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For more information on WebGalaxy™, visit the real thing:

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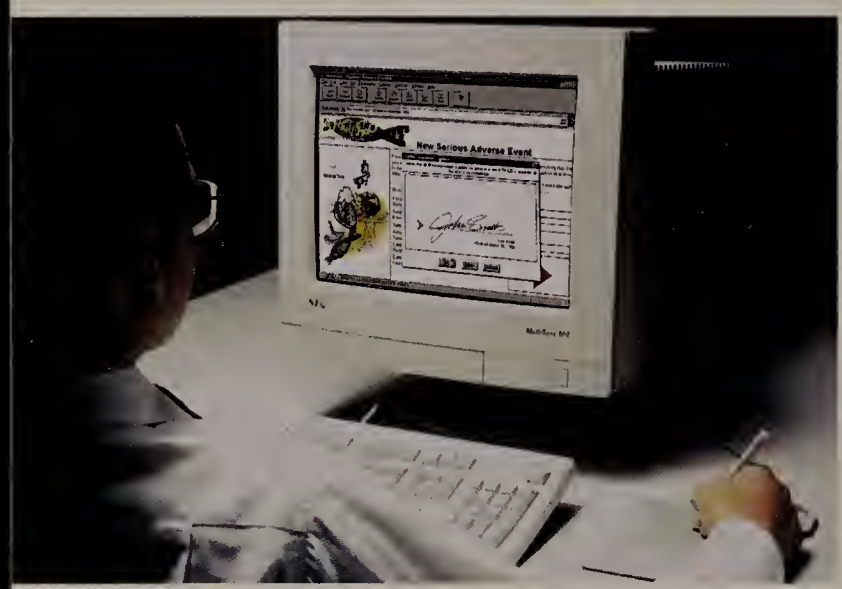
Signature Tuneups

One problem with online transactions is capturing signatures electronically: How can you be sure that John Doe is really John Doe without his John Hancock? PenOp Inc. addresses that issue with a product that lets people "sign" electronic documents just as they would paper ones.

PenOp creates templates of people's "signing behavior" based on a series of signatures submitted in rapid succession or gradually over time, or culled from previously signed documents. These templates are stored as encrypted data objects that bring together such information as the signatory's name or account number, time and date of signing, and handwriting traits. To prevent reuse, the tokens create links between a signature and a single document; to ensure informed consent, they generate application-specific messages that tell users what they're signing.



Recognizing that an individual's handwriting may vary, the software returns a score between zero and 100 for each signature submitted, as opposed to simply accepting or rejecting it. Because the application "knows" the scale of each transaction, it can dynamically decide what flies and what dies (for example, if you're buying a book, a score of 40 is probably OK; if you're buying the Book of the Month Club, it's probably not). Call 800 286-4137 or surf over to *www.penop.com.*

Enterprise Possessions

Dun & Bradstreet Software Services Inc. wants people to stop equating the terms "enterprise" and "enterprisewide." The latter, D&B argues, can be applied to any application that is widely used throughout a company. The former defines applications that are critical to an organization's basic business objectives. It is in the arena of enterprise applications that D&B expects its SmartStream Web Series to play.

D&B's applets (Java-based, needless to say) are designed for the corporate intranet. The first allows local and remote users to perform purchase requisitions through the Netscape browser. Employees access central databases for corporate and vendor catalogs and then download electronic requisition forms; once those forms are completed, they are routed for approval and processing .

D&B has also created something called the Data Webhouse, which transforms internal home pages into entry points for enterprise applets that conduct a range of business transactions. Both products work with the company's SmartStream Distributed Enterprise application suite through standard Web servers. Call 404 843-0200 or click to *www.dbsoftware.com.*

Continued on Page 66

The Big Irony

Anyone who thought mainframe computing was down for the count reckoned without the Web. Faced with stalled client/server initiatives, companies are discovering that the combination of mainframe applications and Internet infrastructure is a match made in reengineering heaven.

That's according to Apertus Technologies Inc., whose Enterprise/Access: Web Edition allows organizations to make available existing information from any browser without requiring changes to business applications, data or infrastructure (typical applications can be developed in a zippy three to four weeks). The server-based product accepts HTML form requests and uses them to retrieve information through a variety of mainframe links or through SQL operations against relational data. The system can handle thousands of form requests simultaneously: Services are maintained in a cache, so response time is short,

When mainframe meets Internet

even for those services most frequently requested.

The solution should be attractive to network administrators, who won't have to copy data or worry about synchronization and updates.

For more information, call 800 328-3998 or find Apertus at *www.apertus.com.*

www.web-master.com/

Electronic Commerce Web applications? Open Market won't wait.

"Our clients don't want to publish text on the Internet, they want to sell things. Bluestone's Sapphire/Web is the development tool with the goods to help bring electronic commerce applications to market."

Gary Eichhorn
President
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To develop Web applications TODAY, they recommend Sapphire/Web.

Everybody's talking about it. But who's actually delivering the tools to build the next generation of Web applications?

Open Market's OM-Transact software (www.openmarket.com) allows companies that open "Internet Stores" to take orders and collect payment without having to handle credit card transactions. Analysts say they could become an industry standard.

What tool do they recommend their clients use to build Web-based client/server applications? Sapphire/Web,® from Bluestone.®

Sapphire/Web

- **Visual: easy to use for novices, yet powerful enough for large development teams.**
- **Open: works with your HTML editor, server and browser of choice; allows you to keep pace with changing Web technology.**
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Only Sapphire/Web lets you build Web-based client/server applications using a comprehensive set of visual tools. Just point and click to bind your database—including its native SQL, stored procedures, existing functions, executables, files and even legacy systems—to your front-end HTML forms. So Web applications that take orders, track packages or service customers come to life quickly and easily.

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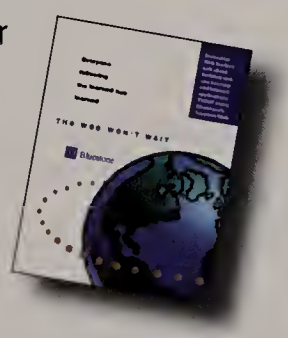
Start today! Download Sapphire/Web FREE!

Get more information or an evaluation copy at **http://www.bluestone.com.** Or call **(609) 727-4600.** We'll also send "The Web Won't Wait"—which profiles other Sapphire/Web fans like META Group and North Park Studios.



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